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MONEY-MAKING CORN

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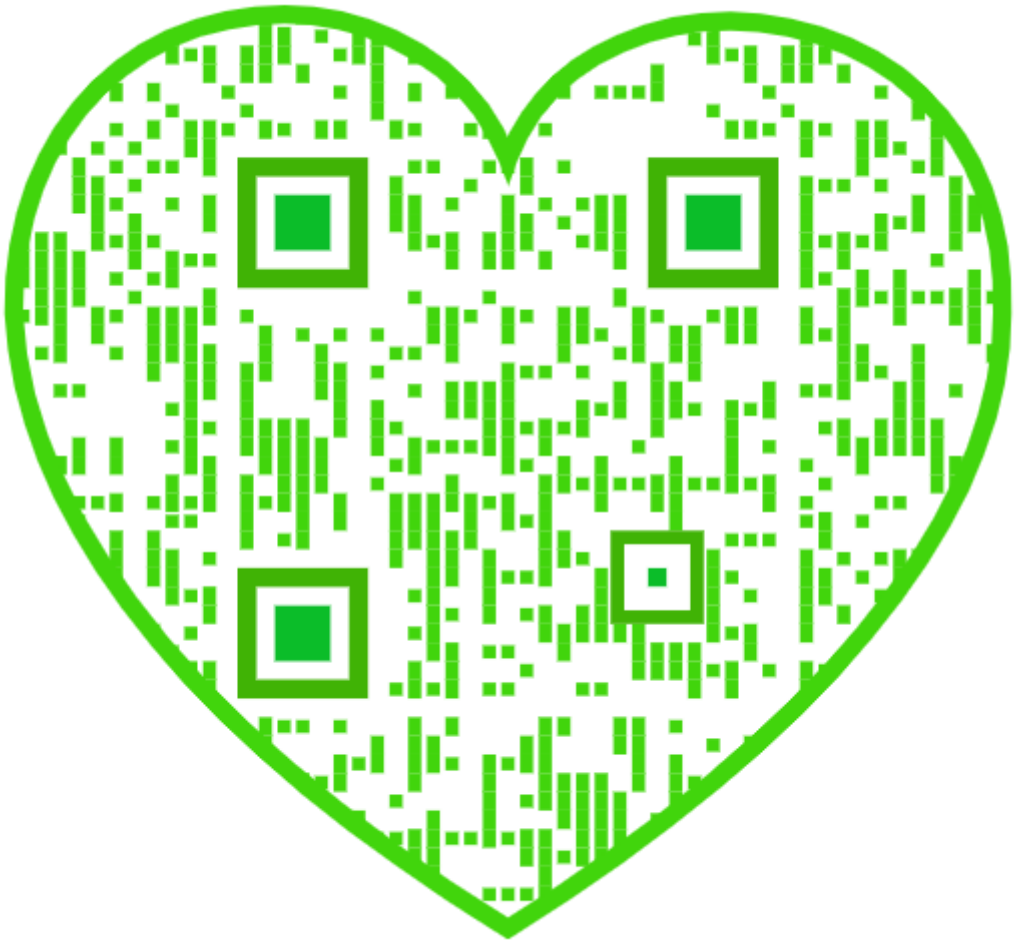

Soundness and perfect maturity are characteristic of Corn raised with our Fertilizer

Money-Making Corn

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"Let earth withhold her goodly root,
Let mildew blight the rye,
Give to the worm the orchard's fruit,
The wheat-field to the fly:

"But let the good old crop adorn
The hills our fathers trod;
Still let us, for this golden corn,
Send up our thanks to God!"

—*Whittier.*

MONEY-MAKING CORN

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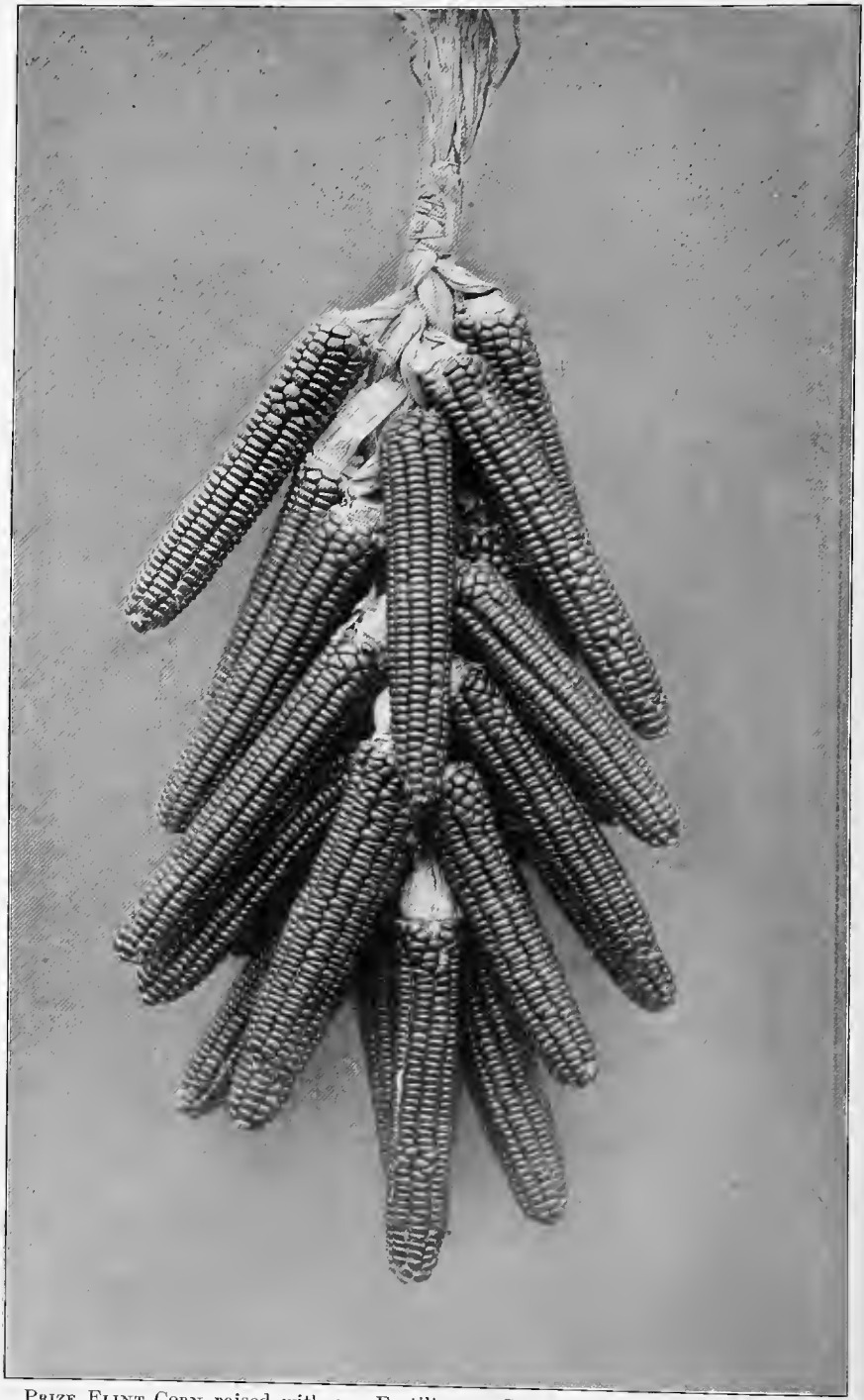
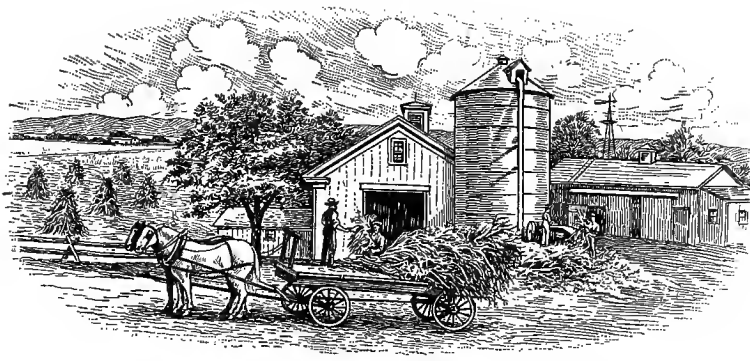


PRIZE FLINT CORN raised with our Fertilizers. Corn like this requires abundant plant food which is furnished by our Corn Fertilizer in just the right



MONEY-MAKING CORN

DO YOU realize what the corn crop means to this nation? Can you grasp the full significance of three billion bushels of corn?

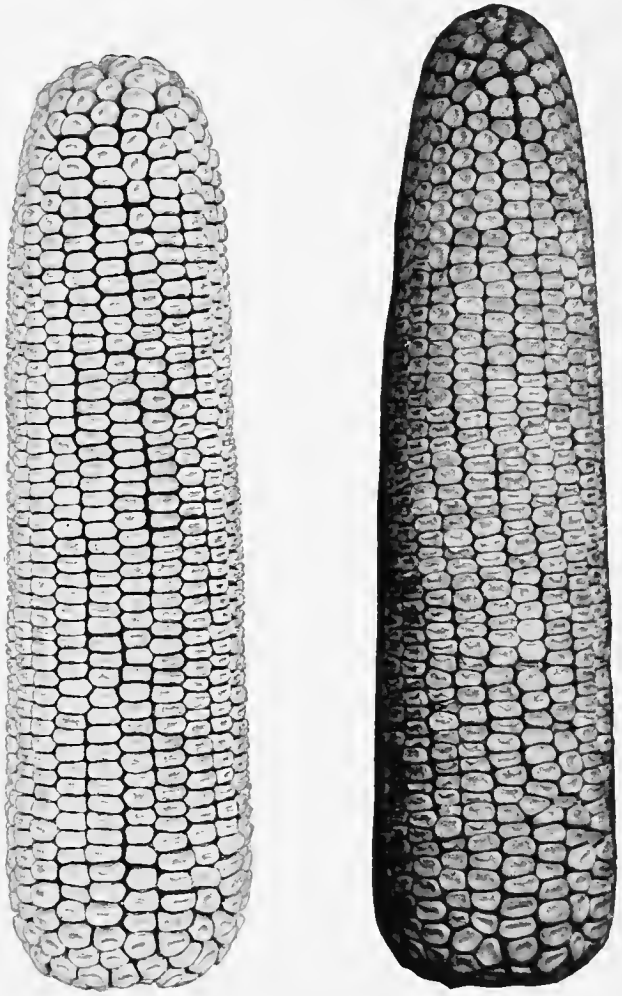
Honorable James Wilson, for many years United States Secretary of Agriculture, said of our corn crop of 1909, valued at $1,720,000,000: "It came up from the soil and out of the air in one hundred and twenty days, $14,000,000 a day for one crop; really enough for two 'Dreadnoughts' daily, for peace or for war."

It is indeed a far cry from the days of 1621 when a few acres of corn brought life and thanksgiving to the Pilgrims at Plymouth, to the present time when a single year's corn crop has a farm value approaching two billions of dollars.

Over twenty-one years ago Sir William Crooks called attention to the alarming prospect of a great shortage in the world's supply of wheat. Some of our own economists now tell us that if our population continues to increase in the same ratio that it has during the recent past, fifty years hence this country will not produce food stuffs sufficient to feed its people. These investigators have apparently overlooked several important factors, chief among which are the wonderful possibilities of the corn crop, the intelligence and ability of American farmers, and the increasing assistance to agriculture that will be given by High Grade Commercial Fertilizers.

This booklet is intended for practical farmers who are growing corn. Much of the work described in it is undoubtedly very familiar to you; but a careful reading may give you some helpful hints that will save you money in the future.

VARIETIES OF DENT CORN THAT MAY BE GROWN IN THE EAST.



Brewer's Yellow Dent, at left, developed from Reid's Yellow Dent through careful selection by N. H. Brewer of Connecticut—matures well in southern New England, southern New York and in latitudes farther south. This corn took first prize at the National Corn Show at Omaha in 1908. Leaming Improved, at right, bred in Illinois from old Ohio type. Widely grown in Iowa, Illinois, Indiana and Ohio for grain, and one of the best varieties for silage in New England, New York, New Jersey and Pennsylvania. (Illustration Brewer's Yellow Dent by courtesy of N. Howard Brewer, Hockanum, Conn.)

Soils Best Adapted To Raising Corn

While corn may be grown successfully on a variety of soils, a medium to light loam is to be preferred. Even if the soil is inclined to be somewhat sandy, excellent crops may be raised, provided careful attention is given to fertilization and tillage. If the tropical or sub-tropical origin of the corn plant is borne in mind, it will be easy to understand why corn prefers a warm, well drained soil.

On account of its wide-spreading root system, corn does not do well on stiff and heavy clays that are subject to baking and caking.

Such soils may be improved for corn culture by liming and the raising and plowing in of leguminous crops, such as Canada field peas, crimson clover or red clover. Frequently muck soils containing large accumulations of organic matter produce good crops of corn after they have been thoroughly drained, limed and properly fertilized.

For general farm conditions, however, a warm, light, mellow soil is to be preferred.

Corn and Crop Rotation

The place of the corn crop in a system of rotation naturally depends in a large measure on local conditions and the special work that is being undertaken on each individual farm.

For example, if land is in a very heavy sod it should be fall plowed and the rotation followed may be corn, potatoes, followed by grass and clover for two years. On the other hand, if the sod is light, it may be plowed under in the fall and the rotation followed be potatoes, corn, followed by grass and clover for two or preferably three years. Either of these rotations is excellent for New England.

Fall plowing is desirable for two reasons: first, so that the alternate freezing and thawing may break up the old sod, and second, so that grubs and larvæ of various insects may be destroyed by freezing.

Another good rotation is corn, potatoes, rye followed by grass and clover. Many dairy farmers practice the following rotation: Potatoes, corn for two years (the first year for grain, the second year for silage), grass and clover spring sown with a light seeding of oats or beardless barley.

It is a common practice in some parts of New England to seed the grass and clover amongst the standing corn at the time of the last cultivation. This method may be followed when careful, clean, level culture of the corn crop has been observed. It has proven

TYPES OF FLINT CORN PARTICULARLY ADAPTED TO THE EAST. (FLINT VARIETIES ARE GENERALLY TO BE PREFERRED FOR NEW ENGLAND, CENTRAL AND NORTHERN NEW YORK.)

SHEFFIELD PRIZE FLINT CORN, grown in Vermont since 1867. Seed brought to Sheffield, Mass., and there greatly improved. Eight rows. Ears 8 to 8½ inches long. Usually matures in ninety to ninety-five days. Particularly adapted to North-Central and Northern New England and New York. A heavy yielder. (By courtesy of Ross Bros. Co., Worcester, Mass.)

LONGFELLOW, grown in Central and Southern New England for over seventy-five years. Ears large, 12 to 15 inches long; eight rows. Not recommended for planting north of Massachusetts.

(THESE ILLUSTRATIONS ARE NOT MADE TO THE SAME SCALE. LONGFELLOW CORN IS USUALLY FROM 4 TO 7 INCHES LONGER THAN SHEFFIELD.)

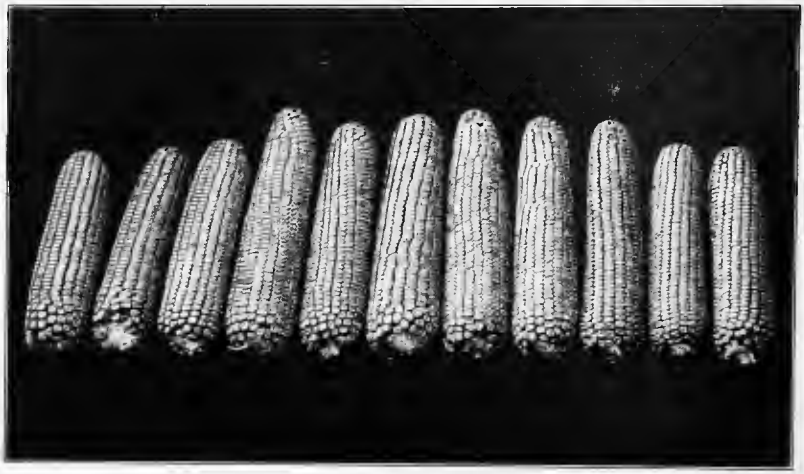
successful, particularly in the Connecticut River valley and in other places where the soil conditions are such as to afford a good seed bed and an abundance of moisture. The corn should be cut short at harvest time and the stubble well rolled the next spring.

A favorite rotation with New Jersey farmers is corn, upon which all the stable manure produced upon the farm is used, potatoes, upon which a large application of high grade fertilizer is made, followed by wheat seeded with clover and timothy. The land is kept in grass for two years and then plowed up for corn once more. This rotation cannot, however, be recommended for the northern New England states, nor for northern New York. It is evident that the potatoes would not be harvested in time for proper seeding to the wheat and grass. A rotation worked out at the Rhode Island Experiment Station by Dr. H. J. Wheeler is corn with a cover crop of vetch and crimson clover, potatoes, seeding with wheat or rye with grass (clover on the surface the following spring), grass for three years. This rotation is particularly profitable where hay commands a good price.

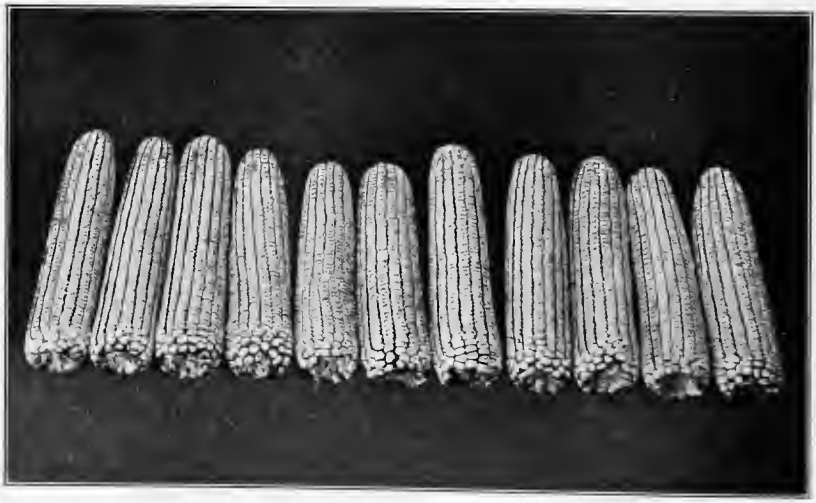
In what may be termed the "Corn growing states" of the Middle West, a rotation frequently used is the following: Grass and clover, three years, corn for two years, wheat or oats (sown with grass and clover), one year.

Careful preparation of the soil, including deep plowing and thorough harrowing, insures a mellow seed bed with less danger of retarding growth by root pruning during cultivation. See illustration at the left. Shallow plowing and insufficient harrowing form a shallow seed bed in which the roots lie close to the surface and are in danger of injury during cultivation and have a much smaller feeding area. See illustration at the right. Both of these hills of corn were planted at the same time. (Illustrations by courtesy of Deere & Co., Moline, Ill.)

TYPES OF DENT CORN RAISED IN THE MIDDLE WEST.



Reid's Yellow Dent Corn, Standard Type. This has for years been one of the heaviest yielding varieties of corn in the United States. It is largely grown in the Middle West. Many other varieties have been developed from it by selection or by hybridization. (By courtesy of the Wing Seed Co., Mechanicsburg, Ohio.)



Wing's Improved White Cap Corn; a heavy yielding White Dent that will mature satisfactorily in an ordinary season as far north as latitude 41 degrees. (By courtesy of the Wing Seed Company, Mechanicsburg, Ohio.)

Preparation of the Soil

Corn rejoices in a deep, light and permeable soil. The root system is wide spreading as well as deep reaching, and thorough preparation of the soil including careful plowing and thorough harrowing should be insisted upon.

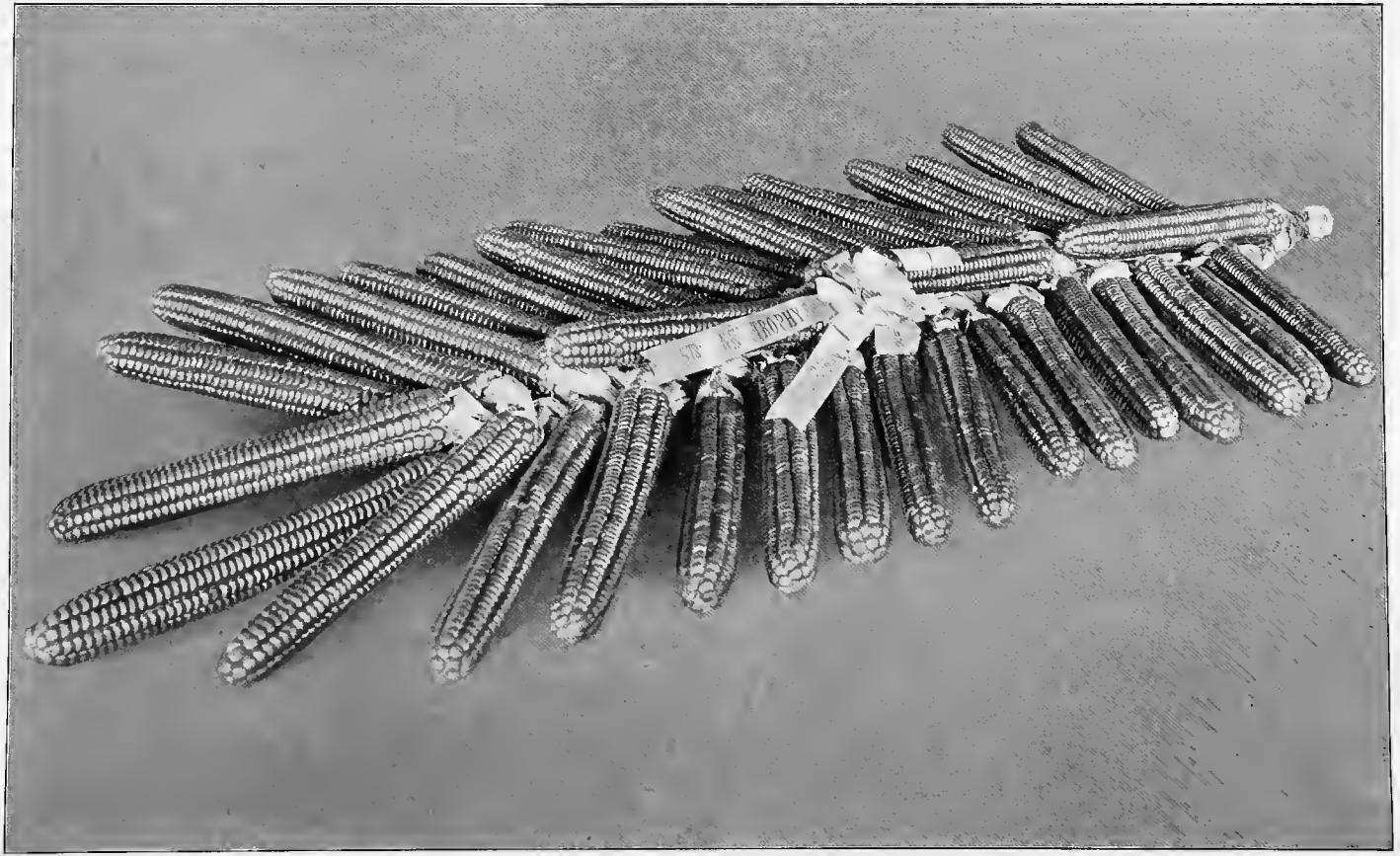
Fall plowing is generally best, particularly in the case of a heavy sod. Shallow plowing accounts for many poor yields of corn as well as of other crops. Plowing should be at least eight inches deep and ten inches is much better.

In many cases it will be an advantage to follow the turning plow with a subsoil plow, taking care to loosen but not turn up any of the subsoil itself. Says Professor Alva Agee:

> "Most land has a great store of plant food material below the blanket of earth that we stir with the plow. The movement of water in the soil effects changes and deep-rooting plants do likewise. Practically all land is a storehouse of food for plants to a great depth. Nature did not make any such skimpy provision for human life as may be measured by the few inches of surface soil that man has found convenient to stir.
>
> "On the other hand we do know that it is easy to exhaust the supply of available plant food to such a point that there is no profit in farming. When a soil is not naturally strong and is of such a character that it gives up easily the strength it possesses, we are dependent upon supplies of plant food from outside sources." (*National Stockman and Farmer,* November 8th, 1913.)

Harrowing with a heavy cutaway disc harrow prepares the soil admirably for the corn crop. Harrow thoroughly and repeatedly, bearing in mind that this is one of the cheapest and most convenient ways to cultivate the crop. In other words, it may be regarded as advance cultivation. Remember that the roots of the corn crop must breathe, and that an interchange between the air contained in the soil and the outer atmosphere is necessary, hence the necessity for getting the soil into as porous and mellow a condition as possible. Be sure that fall plowed land is harrowed early in the spring, before the land dries out too much. Harrow as soon as the land is workable. By so doing a great amount of moisture will be conserved in the land for the benefit of the young corn plants later.

The cutaway harrow should be followed by the spike toothed smoothing harrow, which leaves the land in excellent condition for planting. If stable manure is to be used for the corn crop (and there is no better place on the farm to use it), it may be spread upon the sod before plowing and turned under. In general, stable manure should be spread as fast as made thus avoiding losses of Ammonia



STICKNEY IMPROVED YELLOW FLINT CORN, a superior variety of Flint evolved by careful selection and breeding for over thirteen years. (By courtesy of Mr. Geo. E. Stickney, Newburyport, Mass.)

due to fermentation. If immediate spreading is not possible and manure is allowed to accumulate and rot, it should then be plowed or harrowed under as fast as spread thus retaining in the soil much valuable Ammonia that might otherwise be lost. If this is done, however, special attention should be paid to the plowing, so that the furrows are not turned over flat and the stable manure thus buried beneath the inverted sod.

Use a plow with a bold outward curve to the mold-board, and adjust the plow so that the furrow slices will overlap in a loose and crumbled condition. Many good farmers prefer to spread stable manure after the land has been plowed and to work it into the soil with the heavy cutaway disc harrow. In general, however, it is better to plow the manure in, particularly on light soils, provided the plowing is done properly as mentioned. The possible exceptions to this are on heavy soils not deeply plowed.

If lime is to be used upon the corn ground it should be broadcasted after the soil has been plowed and harrowed once, and thoroughly worked into the soil by the subsequent harrowings with the cutaway disc harrow.

On account of the crop's wide-spreading root system, the greater part of the commercial fertilizer used for corn should be broadcasted, and the best time for this is at next to the last harrowing with the cutaway disc harrow. The fertilizer is thus worked into the soil by the final harrowing with the cutaway harrow and also by the harrowing with the spike toothed smoothing harrow.

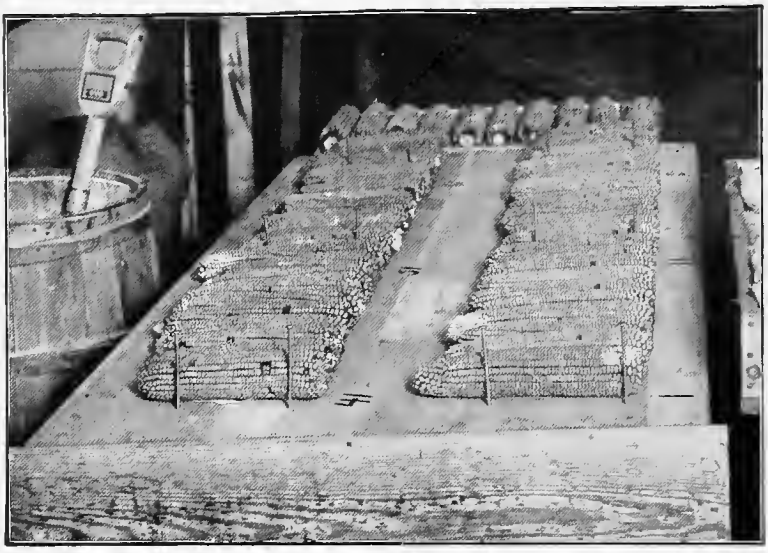
Seed Selection

Those corn growers who have experienced the disappointment of a great many "missing hills" in their newly planted fields, and those who are familiar with the trouble and expense incident to replanting corn in the spring, should need but little urging to select their seed corn with care, and to test it thoroughly.

Nevertheless, carelessness frequently is shown in seed selection, and it is probably no exaggeration to say that many growers who consider themselves good farmers, receive no adequate return from one-fourth to one-third of their corn acreage, on account of the use of inferior seed.

It is possible, by careful selection and testing and grading, of seed, to secure practically a perfect stand of corn, and of course the expense for plant food and labor for a perfect stand is no greater than for a poor one.

TESTING SEED CORN.



Arrangement on Bench of Ears to be Tested.

Packing Sawdust in Germinating Box. A Brick is convenient for this. The Surface should be left even and smooth.

Stretching and Tacking Cloth over Sawdust in Germinating Box.

(Illustrations by courtesy of the International Harvester Company, Agricultural Extension Department.)

As a general rule it is unwise to plant the main or general corn crop with seed imported from a remote section of the country. Sometimes this may be done successfully, if the conditions of climate and soil in the remote section correspond closely to the conditions of climate and soil where the crop is to be grown. In general it is better to depend upon seed of varieties that are being raised in your vicinity and have proven themselves adapted to local conditions. Such seed may be greatly improved by careful and continued selection and testing.

If the varieties that are being raised locally are distinctly inferior and it is necessary to import seed from a distance, it is a good plan before placing dependence on such seed for a main or general crop, to test it out thoroughly on a special area devoted to this work. In this way, it may be tested as to its fitness for local conditions and a careful selection of seed made.

The selection and testing of seed corn naturally begins in the field, where sound ears of a nearly uniform size from healthy, vigorous well matured plants should be chosen. If an ear is soft or twists easily in the hands, it is an indication of immaturity and such an ear should be rejected. Select ears that are well filled out at both the tip and butt ends, or as is commonly said, "Well capped over." Do not select extra large ears at the expense of soundness, maturity, and productiveness.

Endeavor to select ears of a size of which a uniform run can be secured from the field. Ears in which the kernels run in straight rows are better than those in which the rows are twisted or crooked. Kernels should also be of good size and uniform. Seek for ears with small cobs and relatively large amounts of kernel to cob.

It is generally best to select ears that are placed low on the stalks, with the thought in mind of ultimately, by such continued selection, developing a strain or variety of corn in which low growing ears are characteristic. In case of varieties of ordinary size, ears more than four feet from the ground should never be selected.

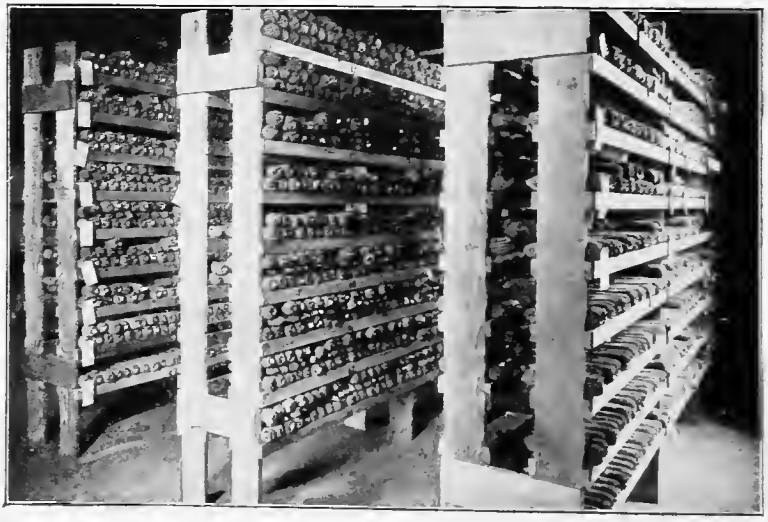
Ears placed high on the stalk naturally make a plant top-heavy and hence easily blown over by heavy winds, with resultant loss from lodging. In the case of extremely tall growing varieties, it is sometimes necessary to make exceptions to this rule.

Corn intended for seed should be selected in the field before severe freezing weather begins in the fall. Early September is the best time. Too frequently the selection of seed is allowed to wait until husking time, but this involves danger of serious injury to the germs of the seed corn through freezing. Freezing does not hurt seed corn after it is thoroughly dried, but freezing while the corn contains a large amount of moisture must be avoided if good results are to be secured.

After the seed ears are gathered from the field, they should be dried as rapidly as possible. Commercial seedsmen generally have a special drying room or loft artificially heated to dry the corn quickly and thoroughly. In the absence of any such arrangement the corn may be dried in a dry cellar in which a furnace or other heating apparatus is located. If this is not convenient, corn may be dried in a warm dry attic or other convenient room.

Corn that is being dried for seed should be arranged so that it receives a free current of air from all sides. The ears should not touch each other. Corn may be arranged on good stout strings with from a dozen to twenty ears on each string, or it may be placed in shallow trays with slatted bottoms or dried upon a rack prepared as follows: a frame may be made of ordinary 2 x 4 stock, say 3 to 4 feet wide and 4 to 5 feet high, and provided with supports at the bottom to hold it upright. To this frame may be nailed one inch strips, through which have been driven, at a slight upward inclination, wire nails about 3½ inches long.

The butt end of the seed ears may then be thrust directly upon the projecting ends of the wire nails. This makes a convenient rack that may be moved from place to place if necessary and any particular ear may be removed without disturbing the others, which is not the case when corn is hung up in strings. Other convenient ways of handling seed corn will readily suggest themselves.



An excellent method of storing Seed Corn in well ventilated racks. (By courtesy of Deere & Company, Moline, Ill.)

Seed Testing

Assuming that the seed corn has been carefully selected as described, it next requires testing to determine its vitality and percentage of germination. The futility of planting seed that looks well, but will not grow, or seed that at best makes only a feeble growth, is quite apparent.

Although seed testing may at first thought seem somewhat complicated, it is in reality very simple, and the return in dollars and cents pays many fold for the time and trouble required.

Testing, however carefully done, will not compensate for carelessness in selecting and preserving the seed ears. If the seed has been ruined through freezing while containing considerable moisture, testing will of course readily reveal the fact; but it cannot restore the damaged seed to first class condition. Do not, therefore, slight the selection and drying of the corn with the thought that any carelessness in these operations may be corrected by testing later.

The leading advocate of seed corn testing in this country, is Professor P. G. Holden, formerly of the Iowa State College, and now engaged in active agricultural propaganda work in the Middle West. Professor Holden has preached the gospel of better methods in corn raising enthusiastically and effectively.

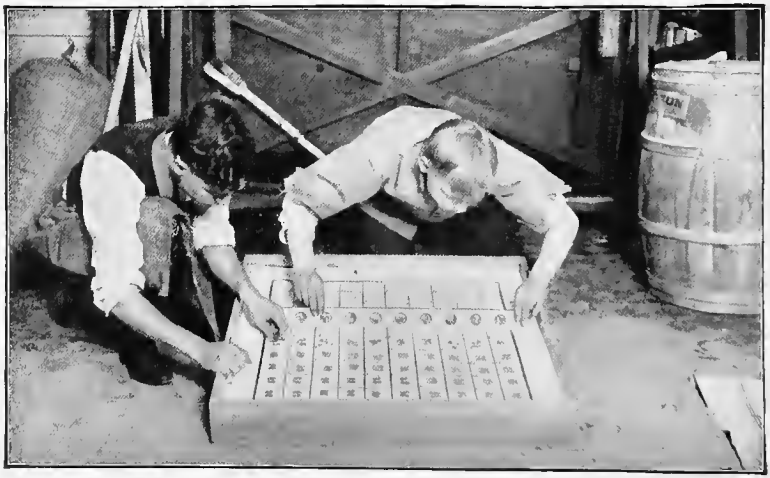
Undoubtedly Professor Holden's method of testing seed corn is the best that is known to us, and in urging corn growers to test their seed carefully, the writer recommends that they use Professor Holden's method, a résumé of which follows:

Prepare a box (or boxes) about 4 inches deep and 2½ to 3 feet square. Fill the box about half full of damp sawdust pressed down to a firm level surface. (The sawdust should be placed in a burlap bag and soaked in warm water for several hours, or preferably for over night before using.) Over the sawdust place a clean white cloth that has been ruled off into squares about 2½ inches each way with an indelible pencil. A margin or border of about two inches should be left on the cloth and no squares ruled in this margin. This is because the sawdust near the outside of the box is apt to dry out rapidly and thus cause poor germination even though the seed may be good. Number each square consecutively from one upwards. Stretch the cloth tight and tack it to the sides of the box so as to have a smooth level surface.

The ears of corn to be tested should be laid out in a row on a plank or bench and each ear separated from its neighbor by two nails driven into the wood. On the plank or bench place numbers for each

TESTING SEED CORN.

Removing Six Kernels from each Ear to be Tested.



Placing the Kernels in Germination Box. Kernels should be laid in the Squares with the Tips all one way and the Germ side up.

(Illustrations by courtesy of the International Harvester Company, Agricultural Extension Department.)

ear, numbering from one, consecutively. Discard at the outset, for seed purposes any ears that are irregular, mouldy or otherwise physically imperfect. If proper attention has been given to selection and drying, there should be but few ears of this sort at this stage.

Shell off from each ear all butt and tip kernels, discarding these for seed purposes. Before proceeding with the test look carefully for small, weak or frozen germs and discard all ears on which the kernels show this defect. Also discard all ears having abnormally large or coarse cobs.

From each ear to be tested now select three kernels of corn; one from near the center, one from near the butt and one from near the tip end; then turn the ear over and select three more kernels in the same way. Place the six kernels from the first ear of corn in the testing box in the square marked "No. 1." Proceed in the same manner with the other ears, taking great care to see that the number of each ear on the plank or bench corresponds with the number on the square in the testing box. In placing the kernels in the squares, lay them flat, germ side up with the tips all in one direction.

Now place a second white cloth carefully over the kernels. This cloth should be of such a size as to just fit into the box nicely. Sprinkle this cloth with warm water, place over it another and larger piece of cloth, which has also been dampened with warm water, allowing this larger cloth to project well over the edge of the box.

Pack the box full of more sawdust that has been dampened by soaking in warm water, packing the sawdust in firmly with a brick or treading it down with the feet. Then fold the projecting cloth back over the sawdust and the arrangement is complete.

The testing box or boxes should be kept in a warm room. At the end of 8 days remove very carefully the sawdust covering and the top cloth next to the corn. Examine the kernels in each square and reject for seed purposes ears that bear the same number as the squares in which there has been no germination or in which germination has been feeble.

It will sometimes happen that some of the kernels in a square will have germinated well, and others poorly. In this case, discard for seed purposes the corresponding ear. Remember that the planting of weak seed means the propagation of more weak corn plants and the impairment of strong and healthy plants by the pollen from the weaker ones. Every effort, therefore, should be made to preserve for seed purposes, only those ears showing complete germination of the six kernels being tested, and if possible strong and vigorous germination of all of them.

TESTING SEED CORN.

Laying on the Cover Cloth. Dip the Cover Cloth in warm water and wring it out before using.

Laying on the outside Top Cloth.

Packing the top layer of Sawdust. The Sawdust should be warm and packed down carefully.

Folding the top cloth in over the edges of the germination box.

(Illustrations by courtesy of the International Harvester Co. Agricultural Extension Department.)

Grading Seed Corn

After the seed corn has been tested as described above, and the undesirable ears discarded, the good ears should be carefully shelled by hand. Hand shelling, while slower than machine shelling, is preferable, as cracking of the kernels is thereby avoided. As each ear is shelled, run the corn over a hand screen having a mesh of sufficient size to retain on the screen kernels of a size that has been decided upon as your standard and allowing smaller size kernels to pass through.

This work may be done more rapidly with sorting machines, but whether done by hand or by machine, hand shelling should be insisted upon.

Next place the corn in boxes, about a bushel at a time, and tread it with the feet; after which it may be run through a fanning mill to remove the chaff, etc.

Finally spread the corn out on a table or bench, a small quantity at a time, hand pick it carefully, discarding any cracked or broken kernels and any kernels in which the germ shows signs of injury. The corn may now be placed in stout bags and after labelling, hung up in a dry place, special precaution being taken to avoid damage from rats and mice.

To one not familiar with the process of corn testing, it generally looks like "a lot of work." It is, however, much easier to do than it is to explain, and is one of the most interesting and fascinating of all farm operations. Best of all, it pays.

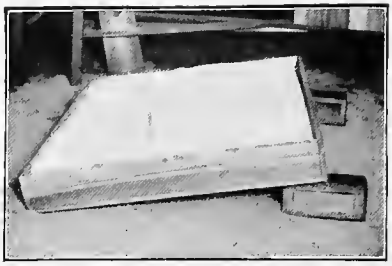
Getting Ahead of the Crows

The ordinary precautions against the pulling of corn by crows are of little or no avail. Most farmers have tried them all; such as ordinary strings stretched over the field between poles, more or less life-like "scare crows," the hanging of a dead crow to a pole in the field, tarring the seed corn, etc. All of these are of no avail except tarring of the seed corn, and to this there are serious objections.

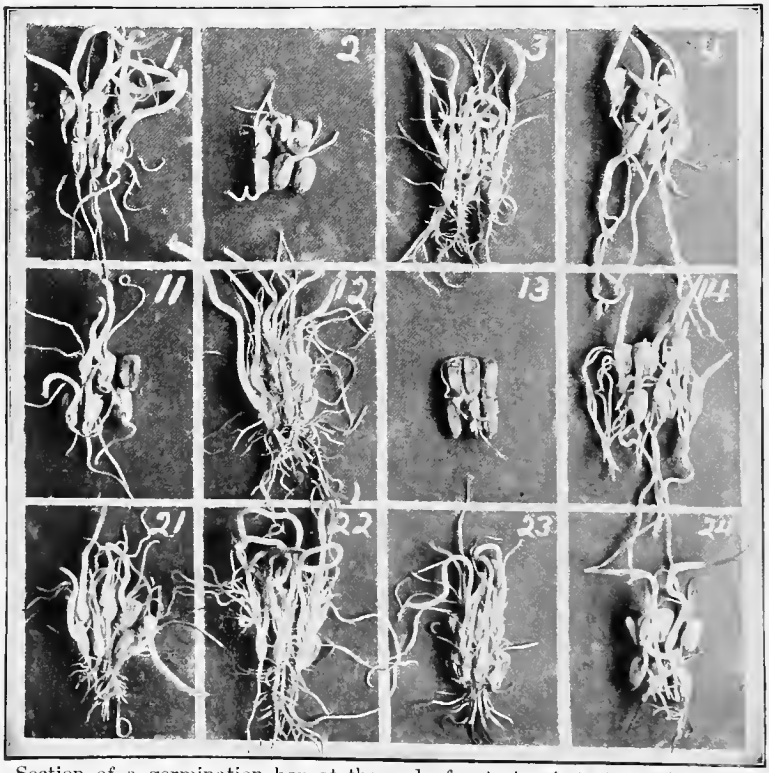
If coal tar is used, the germinating power of the corn is frequently very seriously injured. In addition to this, it is necessary to dry the tar coated kernels by rolling them in plaster and it is then sometimes difficult to regulate the dropping of the kernels from the planter properly.

Some of our economic entomologists now tell us that the crows are really blessings in disguise, because they destroy such a large number of injurious insects. Granting that this is true, it would seem much better that the crows should hunt their insects in some other place than in the corn field.

Raising edge of box. The edge of the box toward which the crowns of the kernels are pointed should be raised. The kernels will then send the stems toward the upper part of the box and the roots downward.



Waiting for Corn to Germinate. Do not attempt to read the test until the stem sprouts are at least two inches long.



Section of a germination box at the end of a test. A test usually occupies about eight days.

(Illustrations by courtesy of the International Harvester Co. Agricultural Extension Department.)

Fortunately there is now a simple and sure method for preventing the depredation of the elusive crow. Put the dried, shelled corn in a pail and add just enough Pyrox paste to lightly coat each kernel. The Pyrox should be vigorously stirred before being added to the corn, as the stirring reduces the Pyrox to a creamy consistency in which form it makes the best coating for the kernels.

Stir the corn vigorously with a wooden paddle until every kernel is lightly coated with Pyrox. About one pound of Pyrox is sufficient for an ordinary pailful of seed corn. In about ten minutes the moisture in the Pyrox will have been absorbed and the corn may be used in the planter. Crows will not pull or touch corn so treated, and this simple process will avoid time and expense for replanting.

Planting

HAND PLANTING: Only on very small fields should corn be planted by hand. In such cases it is generally customary to plant the corn in hills. The ground may be marked out both ways, by means of an ordinary horse marker, which will lay out from four to six rows at a time.

Assuming that the greater part of the fertilizer to be used has been broadcasted as previously advised under "Preparation of the Soil," a small handful of fertilizer may now be placed where each hill of corn is going. Work this into the soil thoroughly with a hand hoe and then drop the seed. Cover with fresh moist earth and firm the soil by treading with the feet.

PLANTING BY MACHINE: Except in small home gardens, corn is almost invariably planted by machine. In fact, corn growing on any appreciable scale is impossible without corn planters. The machines open the furrow, drop the seed, apply the fertilizer, mix the fertilizer with the soil and cover the seed up at one operation. One horse planters will plant one row at a time, while two horse planters will plant two rows at a time. Hand labor is far too costly to use in corn growing.

WHEN SHALL WE PLANT? The exact time for planting depends of course upon the climatic conditions. The best time for planting in any given locality also varies somewhat from season to season. It is never wise to plant the main or principal corn crop until both the soil and weather are warm. Special crops of early sweet corn are frequently planted very early in the spring in warm and sheltered localities, with a view to getting the corn into market extra early. These crops of extra early sweet corn are however, generally raised by experienced market gardeners, who understand the necessary precautions, and who are prepared to assume the risk and expense of replanting.

Map Showing the Average Planting Dates for Corn in the Corn Growing Regions of the United States. From February 13th to April 29th the lines are drawn for intervals of fifteen days; the remaining lines are drawn for intervals of five days. See list of average planting dates in the text. (By courtesy of The American Thresherman, Madison, Wis.)

There is an old rule that the best time to plant corn is "when the oak leaf is as big as a mouse's ear." In other words, corn may in general be safely planted at the time the leaf buds of the trees begin to unfold. In New England and central and northern New York, this will be from about the 10th to 15th of May, but in latitudes farther south, the planting time will come earlier.

The average planting dates for the main corn crop in the principal corn growing sections are as follows:

Northern Wisconsin, Central Michigan, Central New York and Central New England, May 14th.

Southern Wisconsin, Southern Michigan, Southern New York and Southern New England, May 9th.

Central and Northern Iowa, Northern Illinois, Northern Indiana, Northern Ohio, Central Pennsylvania, May 4th.

Southern Iowa, Central Illinois, Central Indiana, Central and Southern Ohio, Northern West Virginia, Northern Virginia, Maryland and Delaware, April 29th.

Central Kansas, Central and Southern Missouri, Southern Illinois, Central and Southern Kentucky, Central and Southern Virginia, April 14th.

The extreme Southern part of Missouri, Northern Arkansas, Central and Southern Tennessee, Northern Georgia, Northern South Carolina, Central and Southern North Carolina, March 30th.

Central and Southern Arkansas, Central and Northern Mississippi, Central and Northern Alabama, Central Georgia, Central and Southern South Carolina, March 15th.

Shall We Plant in Hills or Drills? The chief advantage claimed for planting in hills is that if the hills are properly laid out the crop may be cultivated both ways. On the other hand it is claimed that when the corn is planted in hills there is a tendency for the plants to crowd each other and consequently, not to develop and yield so well as when separated. This latter claim however, is not borne out by experience at the Rhode Island Experiment Station covering several years' work with Flint corn, nor by general experience with Dent corn in the Middle West.

All things considered, planting check-rowed hills effects a great saving in the labor of cultivation, gives excellent crops and in general should be preferred.

How Far Apart Shall We Plant? The distance apart of the rows depends very largely on the size (height) of the corn that is to be raised. The rows should be farther apart when strong, tall

growing varieties are planted, than for medium or dwarf varieties. Rows for medium or dwarf varieties should be three feet apart. For larger varieties, three feet three inches, and for tall growing varieties, four feet apart.

In the corn growing regions of the Middle West, the standard Dent varieties are usually planted three feet six inches apart. In New England small Flint varieties, such as Canada Cap, etc., may be planted in rows three feet apart, while larger and strong growing Flint varieties, such as Longfellow and also corn grown for silage may be planted in rows three feet six inches apart.

If corn is raised in hills and checked off both ways, the hills will be three feet, three feet six inches, or four feet apart, according to the distance laid off between the rows. If corn is planted in drills, the planter should be set to drop the kernels 8 to 9 inches apart in the row in case of dwarf varieties, and 10 to 12 inches apart in case of standard varieties.

How Deep Shall We Plant? The best depth at which to plant, depends on several important local conditions. On a light sandy soil, planting should be deeper than on a strong heavy soil. When corn is planted early, shallow planting is to be preferred, as the seed is thus nearer the surface of the ground, where it may obtain the benefit of the sun's rays.

Later, after the land has become more thoroughly warmed and possibly more thoroughly dried out, deeper planting may be desirable. On the whole, there is much greater danger of planting too deep than planting too shallow. For average conditions, when planting the main crop one and a half to two inches is a safe depth.

How Many Kernels in the Hill? It is not safe to assume that because we plant say three kernels in the hill, that we are sure of having three sound and productive corn plants as a result. Even under the most favorable conditions it is generally true that from 20 to 30% of the seed corn ordinarily planted does not grow. This percentage may be greatly reduced by the careful selection and testing of seed corn as previously described.

There is more danger of using too little seed than too much. When the planting is too light, not only is the crop of grain greatly reduced, but such plants as occupy the ground are encouraged to throw out a large number of "suckers" which tend to exhaust the strength of the plant so that the yield of grain is not only small, but also of inferior quality.

The best results will be obtained by planting not less than 4 kernels and not more than 5 kernels in a hill.

Cultivation

With the possible exception of haying, there is no farm work more satisfying and encouraging than cultivating corn. The long rows of green plants seem to fairly jump into new life as the cultivator passes by. Even the earth itself seems refreshed and invigorated as the result of this stirring.

At mid-day it requires no great stretch of the imagination to see that the corn, cultivated in the early morning, is already taller and "huskier" looking than the balance of the field still untouched.

The first cultivation should be given with the weeder or spike toothed harrow soon after planting, and before the young plants come up. In this way we get the start of the weeds and kill them out while they are young and just beginning to get a foothold.

After the corn plants are well up, say about four inches high, cultivate deeply with the regular cultivator, giving the next cultivation with the weeder and so alternating until the corn gets too high to use the latter implement.

In many sections it is unfortunately the custom to give shallow cultivation to corn during the early stages of its growth, and later to give very deep cultivation. In fact, it is not unusual in some localities to hear farmers speak of "plowing" their corn.

Better results will be obtained by giving fairly deep cultivation when the corn plants are young and before their roots have commenced to spread, and by following this with shallow cultivation for the remainder of the season. The reason for this is obvious, when we once understand that the corn plants fill the ground with a perfect network of fibrous roots, occupying the entire area of the field, the middle of the rows not excepted. Deep cultivation cuts off a great mass of these fibrous feeding roots, leaves the corn plants without means of getting the plant food and moisture from the soil, and results in an unnecessary loss of moisture from the soil turned up.

Unfortunately the extent and rapidity of the growth of corn roots is not generally understood. The late Professor King of Wisconsin has made a careful study of the development of corn roots and reports as follows:

> "Nine days after the seed was planted, the roots had grown laterally to a distance of 16 inches and some of them had reached a depth of 8 inches. . . . . Twenty-seven days after planting, the lateral roots extended 24 inches and their tips were 4 inches below the surface. The greatest depth reached was 18 inches.

"Topping" of Corn is not generally recommended (see text), but on this Massachusetts farm "topped" Corn that had been well fertilized proved a success.

"In another trial it was found that 42 days after the seed was planted, when the plant was 18 inches high, the roots had penetrated to a depth of 18 inches and spread laterally to a distance of three feet five inches. When corn was three feet high, the entire seed-bed to a depth of two feet was completely filled with roots, the surface leaders being six inches from the surface.

"When the corn was in tassel, the upper three feet of soil was full of roots and the surface leaders were scarcely five inches deep. At maturity the roots had reached a depth of four feet, and many lateral roots were within four inches of the surface."

After the earlier stages of the crop's growth, practice level and frequent cultivation so as to preserve the dust mulch on the surface of the soil thus preventing the evaporation of soil moisture that is essential to the raising of a good crop.

J. H. Hale, famous throughout the country as the "peach king," says that weeds are the greatest blessing there can be on a farm: otherwise the soil would not be cultivated half enough. To raise good corn, however, one should not wait for the weeds to summon the cultivator to the field; the plan should be to keep ahead of the weeds at all times, and to cultivate frequently, especially after every rain, to conserve the soil moisture.

If possible, cultivation should be given once a week until the corn is forty inches high as it stands.

It has been said that a man wise enough to tell when and how to cultivate corn to the best advantage, would have sufficient judgment to run a railroad. Do not, therefore, fail to study methods of cultivation that give the best results in your locality and to try constantly to improve them.

Harvesting Field Corn

The two chief considerations in harvesting corn are, first, to secure the grain in good mature condition, and second, to preserve the stalks before they have lost their nutritive qualities.

The former western method of husking the mature ears direct from the standing stalks, and allowing the latter to go to waste is being given up. The stalks are being preserved for feeding, and husking and shredding machines are more generally used. The old New England system of "topping corn," that is cutting the portion of the stalk above the ear and preserving this portion for fodder, while allowing the balance of the stalk to stand in the field, was also practiced frequently in some other sections.

HARVESTING WELL-FERTILIZED SILAGE CORN.

While this method of handling the corn stover preserves a small portion of the fodder in excellent condition, it is very expensive from a labor point of view, and generally decreases the yield of grain through depriving the plant of sufficient foliage to complete its normal growth to maturity.

Various experiment station tests (Pennsylvania, Mississippi and others) have shown that "topping" frequently causes a net loss of more than 20% in the yield of grain, and this practice is now generally condemned by progressive farmers and experiment station workers. Whenever the fodder is to be preserved, cut the stalks close to the ground and put up in stooks.

Flint Corn is generally mature enough to cut when the ears are well glazed over, even though the stalks may be comparatively green.

Dent Corn should not be cut until fully glazed over and the dents show clearly at the end of the kernels. The outer husks and the leaves below the ears should be yellow but not dry, and the leaves and stalks above the ears should begin to show a golden color. Avoid harvesting prematurely; mature corn not only keeps better and sells better than soft corn, but also is richer in gums, sugars and starches, thus having a much greater feeding value.

While small fields of corn are still cut by hand with a corn knife, this method is not practicable on large areas, and a corn harvester and binder should be used. Corn harvesters and binders have been perfected so that they will cut short corn as well as tall corn; and they will cut corn that is down and tangled and lodged as well as corn that is standing upright. The machines cut the corn, tie it in neat bundles that may be readily stood up in stooks and effect tremendous saving in cost over the old laborious methods of hand harvesting.

As soon as cut the corn should be stood up in good sized stooks, the stooks firmly bound at the top and allowed to stand until the stover is well cured, at which time the ears should be sufficiently dry and hard for husking.

Hand husking is practicable when the crop being harvested is small, and is preferred in handling seed corn. For large crops however, the combined husker and shredder should be employed. The saving in labor is enormous, and further the use of these machines makes it possible to get the corn under cover during favorable fall weather, thus avoiding the drenching of field cured corn with late fall rains.

A Splendid Field of well-fertilized Dent Corn.

Storing (Cribbing) Field Corn

There are certain precautions to be observed in the proper storing or cribbing of corn, although at first thought it would seem as though this were a very simple matter. The following, quoted from Professor P. G. Holden, the famous corn expert, outlines the necessary precautions:

"We have become careless about cribbing corn. There is considerable loss every year from the heating and molding of corn in the crib, and in some years the loss is enormous. We have expanded our cribs from 6 to 8, 10 and sometimes 12 feet in width. We have set them down close to the ground, made solid tight floors, and in many cases have boarded the double cribs up tight on the outside.

"What corn needs when put in cribs in November is the free circulation of air, the more the better. During the early part of the husking season corn contains from 20 to 40% of moisture, but it must be dumped into the bottom of one of these cribs where there is little chance to dry out. More corn is shoveled in on top of it with more or less silks, husks, and shelled corn.

"Those who have observed closely will agree with me that this corn does not spoil in the fall or winter, while the weather is cold, but that in the spring, during March and April, when the weather warms up and the germinating period approaches, the corn in the bottom of the crib begins to sweat, and then to heat and mold. It 'burns out', is light, the chit of the kernel is black and strong to the taste. Such corn is really of little value either for feeding or for the market.

"Our cribs should not be more than 8 feet in width (better 6 feet), should not be boarded up tight on any side, should be higher from the ground, and above all should have slat bottoms to admit air from below. By slat bottoms I mean 1 x 4 inch pieces set on edge, 1 inch apart.

"If the first corn put into the crib is immature or sappy it is a good plan to set some A shaped horses 4 to 6 feet long end to end lengthwise through the center of the crib. These should have strips of boards nailed on the sides sufficient to prevent the corn from filling in all of the space under the horses. This method will give circulation of air through the center of the bottom part of the crib where the corn most frequently spoils."

Fillinn the Silo, a familiar harvest scene.

Fertilization

Corn is a gross feeder, and has a wide-spreading root system covering every inch of the ground. For this reason the greater part of the plant food used for corn should be broadcasted, and only a small portion to give the young plants a quick start, used in the hill or drill.

Stable manure or barnyard manure is particularly well adapted for use in raising corn. The writer in his own experience has found it much better to use stable manure produced upon the farm upon the corn crop rather than to use it for top dressing grass lands or for raising potatoes.

Stable manure however, is not in itself a completely balanced ration for corn, being relatively rich in nitrogen (ammonia) and showing a great deficiency in phosphoric acid and a lesser deficiency in potash. While there is a great variation in the potash content of corn soils in various sections, there is practically without exception a crying need for phosphoric acid. Phosphoric Acid not only is essential to bring the corn crop to early and vigorous maturity but also assists the crop to make use of other plant food elements in the soil.

The nitrogen (ammonia) in fresh stable manure is in organic forms that require the influence of warmth and moisture to promote nitrification, or in other words to turn them into forms available or usable to the plant.

It is therefore wise economy to supplement stable manure with an application of fertilizer relatively low in nitrogen (ammonia) in quickly available forms, and containing a large amount of phosphoric acid and a moderate amount of potash.

The greatest trouble with stable manure, is that there is never enough of it, and dependence must therefore be placed upon high grade commercial fertilizers. Says Professor William P. Brooks, Director of the Massachusetts Agricultural Experiment Station:

> "It is possible to produce corn more cheaply than can be done by the use of barnyard manure alone, by suitable rotation and by the use of fertilizers, at least in part."

Says Mr. H. W. Collingwood, the able and experienced editor of the Rural New Yorker:

> "We urge our eastern farmers to raise more corn at the same time that they try to grow alfalfa and more clover. On many farms there are rough fields or pasture lands that have not been plowed in some years. . . .Our experience is that when these old fields are plowed, fertilized reasonably and planted with Flint corn, they will give a surprising yield of grain and forage.
>
> *"Do not believe those who tell you that you must have manure in order to grow corn. Some of the largest yields on record have been grown with commercial fertilizers and sod."*

PRIZE QUALITY FLINT CORN is easily raised with our Special Corn Fertilizer.

When stable manure is not used, a complete fertilizer fairly rich in nitrogen (ammonia), very rich in available phosphoric acid, and containing a moderate amount of potash needs to be used.

In considering the kinds or grades of fertilizers for corn, the fundamental idea to be borne in mind is that the chief object of fertilization is to feed the crop and not to feed the soil. There are however, certain pronounced soil characteristics that need to be considered, and they may be summarized briefly as follows:

Sandy soils are generally lacking in all the elements of plant food, particularly nitrogen (ammonia). Clay soils contain relatively large amounts of mineral elements, especially potash. Soils rich in vegetable matter are generally poor in minerals. Limestone soils usually contain considerable amounts of phosphoric acid as well as of lime, though it is not safe to assume this on soils that have been cropped for any considerable time.

The old meadows and pastures in New England are decidedly lacking in phosphoric acid.

Too much emphasis cannot be laid upon the fact that phosphoric acid in great abundance in *available forms* is an absolute necessity for the corn crop in practically all localities and for practically all soil conditions. Nothing can take its place as a promoter of early maturity and soundness.

Mature Corn: Why Important

American farmers have always considered that we have a monopoly of the corn crop, and have naturally felt that our methods of raising it are the best possible. However, it is a fact that an enormous quantity of "soft" or immature corn is grown each year, and that a carload of sound corn that grades strictly number one has become something of a rarity.

This means simply that the soils which have for many years produced noble crops are beginning to feel the drain on their stores of *available* plant food. Available plant food is being used up faster than nature can manufacture it from the comparatively inert forms of plant food in the soil. "Soft" corn is not only unprofitable to sell or to feed, but also threatens to break the American farmer's hold on his own home markets. The idea of importing corn into the United States may at first strike us as absurd, but it is being done and we should prepare to meet this condition by raising only corn of the best quality. The following from The National Stockman and Farmer of February 28th, 1914, hints at what may happen:

"Argentine Corn. The ocean freight rate on corn from Argentina to New York is around 8c. per 100 pounds. The rail rate from Iowa to New York is about three times as much, 24c. per 100 pounds. On the basis of its production in recent years Argentina can export about 200,000,000 bushels of corn annually, which it can lay down at Atlantic ports at prices with which corn-belt farmers cannot compete, owing to their disadvantage in freights. Whether such quantities will be shipped remains to be seen, but probably enough will be sent to supply a large territory along the coast. About twelve million bushels of Argentine corn have reached the Atlantic ports thus far selling lately around 65c. a bushel in New York, or relatively lower than at Chicago. The corn is said to be of very good quality and to contain less moisture than domestic corn."

The Argentine corn has a small, hard and very yellow kernel, in general perhaps not quite so handsome as our American corn. Chemical analyses representing some 24 cargoes of Argentine corn, show its composition to be superior to that of American corn.

If sound and mature corn can be brought from the Argentine Republic for less money than corn can be brought from our own Middle West to our Eastern markets, our corn growers must either find ways and means to bring their corn to a similar degree of maturity or prepare to face competition that may in the end prove disastrous.

Commercial fertilizers rich in available phosphoric acid will greatly assist in bringing corn to early and complete maturity. It is to be hoped that our corn growers will make a wise use of this knowledge before the farmers of the Argentine Republic succeed in capturing our seaboard markets.

How Much Fertilizer to Use and How to Apply It. For reasons already given the greater part of the fertilizer for corn should be applied broadcast.

If the total quantity of fertilizer to be used per acre is 1,000 lbs., 800 lbs. should be broadcasted and 200 lbs. used in the hill or drill. The hill or drill application furnishes the young plants with quickly usable plant food thus encouraging a rapid root development and insuring a vigorous start.

The fertilizer should be broadcasted after the ground has been harrowed once with the cutaway disc harrow and worked into the soil by the subsequent harrowings. There are many excellent fertilizer sowers or distributors that apply fertilizer broadcast, and if care is taken to study the adjustment of these machines, little difficulty will be experienced in applying the correct quantity per acre.

Nearly all corn planters may now be purchased with fertilizer attachments, and these attachments are so arranged that the desired quantity per acre may be applied accurately in the hill or drill.

Large applications of fertilizer for corn usually pay best. The writer is aware that this statement may be challenged, but bases his opinion on years of practical experience in raising corn himself, and on what he has seen and studied on the farms of many other growers in various sections of the country.

Labor is becoming more and more costly and the concentration of plant food on smaller areas, together with better tillage and better seed selection means a larger production and a larger profit per acre. Says Director Chas. E. Thorne, of the Ohio Experiment Station:

> "Let one-third of all Ohio farm land go back to forests and cultivate the other two-thirds intensively. That will mean a greater bequest to coming generations than will the present system of land waste. You must stop near-cultivating three or four acres and learn to get the rightful produce of one. Production of wheat and corn and practically all other crops should be doubled in this state, which is the center of the world market." (*Breeder's Gazette,* March 12, 1914.)

In the New England states, from 1,000 lbs. to 1,400 lbs. per acre of high grade commercial fertilizers should be used for raising corn when no stable manure is employed. When stable manure is employed, the amount of commercial fertilizer may be decreased, and from 400 to 800 lbs. per acre should be used, the quantity depending on the amount of stable manure applied, previous fertilization and character of the soil.

In Central and Western New York and Pennsylvania, where the soils are of a somewhat stronger type, we recommend from 700 to 900 lbs. per acre of high grade commercial fertilizer, using not over one-fifth of the fertilizer in the hill or drill, the balance broadcast.

In New Jersey we recommend from 1,000 to 1,200 lbs. per acre of high grade commercial fertilizer. Not more than one-fifth of it should be applied in the hill or drill, and better results will generally be obtained by broadcasting the entire quantity.

Generous fertilization pays not only in the increased crop but in the better quality of the crop. Well fertilized corn means well matured and firm ears, well filled out. Such corn when shelled, stores well and ships well.

Where the Corn covers the ground. A wonderful crop of silage from Corn well fertilized.

Our Special Corn Fertilizers

Recognizing the fact that Corn is the great foundation crop of American Agriculture, we have for years devoted careful attention to the manufacture of special fertilizers for this important crop. For years they have held a leading position as the standard by which other fertilizers are measured.

While in some cases the original formulæ have been modified to include certain quick acting Ammoniates, the features which have for years given these brands a peculiar and superior character, have been carefully retained.

Remember that the chief object of fertilization is to feed the crop and not to feed the soil. Nevertheless, there are certain pronounced differences in kinds or types of soils that call for different kinds of fertilization. Also, when stable manure is used it is frequently desirable to use a fertilizer of different composition from that employed when the crop is raised with fertilizer alone.

To meet the varying conditions of soils and previous or supplementary plant food applications, a large number of Special Corn Fertilizers are manufactured. For example, there are brands especially adapted for use without stable manure, and other brands especially adapted for use with stable manure. We have Corn Fertilizers for use upon soils of a moderately sandy type or on light loams, as well as for use upon medium heavy soils. We have Corn Fertilizers also especially adapted to clay soils and to muck and peat soils, assuming that the latter have been well drained.

Our Corn Brands also include fertilizers for Silage Corn, for Sweet Corn and Pop Corn. If any corn grower will tell us about his individual conditions and problems, full information in regard to such Fertilizers as are best adapted to his conditions will be furnished cheerfully.

Our Brands combine the experience of many years in the fertilizer business with the latest teachings of agricultural science. They are standard plant foods of high availability. Their preparation and composition to meet the varying conditions in different localities, is under the direction of some of the leading agricultural experts of the country.

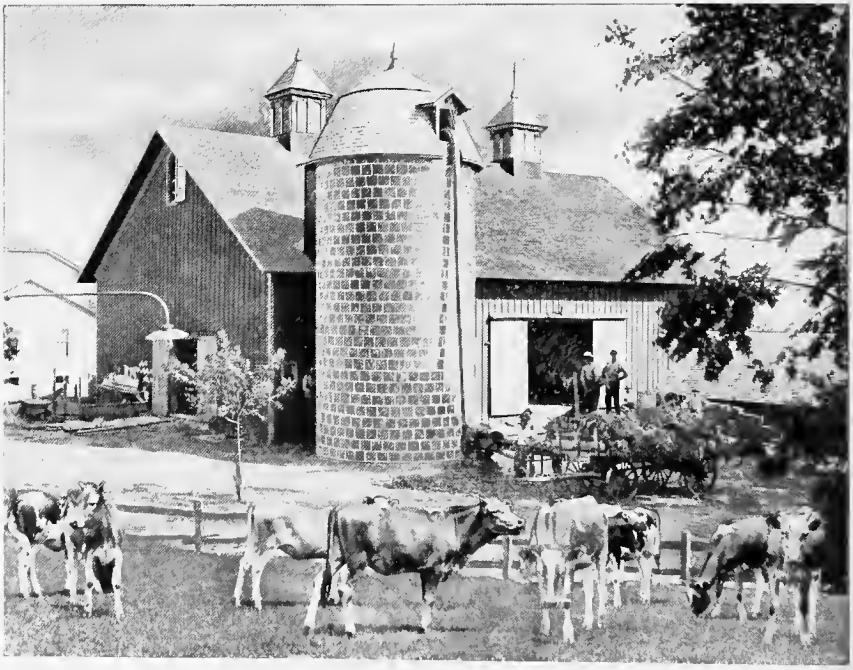
It is hardly necessary to describe in detail the methods of manufacture employed in making these superior brands. Results in the field are chiefly interesting to progressive farmers, and it is by profitable results in the field that our Fertilizers have demonstrated their merit and value.

Character of Fertilizers

In these days of many brands and many makes offered at many prices, it is well to bear in mind that a cut price in fertilizers seldom means a real bargain. More generally it means that inferior materials are being used, or that the fertilizers are in some way of a low grade.

In this connection Dr. Wm. P. Brooks, Director of the Massachusetts Agricultural Experiment Station says:

> "It is not invariably the case but usually, that fertilizer which is offered at the lowest price per ton is, measured by plant food efficiency, the most expensive; and the high grade fertilizers, those which are sold at the highest prices per ton, are usually much better worth the money that they cost than are the low grade fertilizers."



Hollow Tile Silo. The tiles are vitrified or glazed, thus avoiding all necessity for cementing or painting the inside of the silo. There are two dead airspaces in each tile or wall block, thus lessening the danger of freezing. (By courtesy of the National Fireproofing Company, Pittsburg, Pa.)

Silage Corn

No crop can equal corn for silage. While its merits are generally understood, many dairymen often deprive themselves of the benefits of a good crop of silage corn because they have no stable manure with which to raise it. Stable manure, while it will give excellent results for silage corn, is no more essential than in raising corn primarily for grain.

Fertilizers for silage corn should generally contain more nitrogen (ammonia) than fertilizers for corn raised for grain. Nitrogen (ammonia) directly increases the growth of leaf and stalk, and since a large amount of leaf and stalk growth is desired in silage corn, this use of ample amounts of nitrogen is good economy.

Silage corn must however, reach a suitable degree of maturity before it is fit to harvest. The best time to cut corn for silage is when the kernels have well glazed over and the bottoms of the stalks have turned yellow to a height of about one foot. The object sought is to make sure of sufficiently mature ears without undue drying out of the stalks.

It is necessary that this degree of maturity be attained before there is danger of killing frosts in the fall; and this necessity for early maturity emphasizes the importance of planting in due season and of having an abundance of available phosphoric acid in the fertilizer. Potash is required in about the same amounts as in fertilizers for field corn.

Silage corn in the east is usually planted in rows from three to three and one-half feet apart and the kernels dropped in drills from 8 inches to one foot apart, the distance in both cases varying according to the variety of corn planted, whether it is medium or very tall growing. In other sections silage corn is usually planted in hills spaced as for field corn. Cultivation of silage corn is the same as for corn raised for grain.

Silage corn is harvested to the best advantage by machines which cut the corn rapidly and leave it tied in small bundles which are easily handled on wagons and cutter tables.

Investigations conducted by the Dairy Division of the United States Department of Agriculture covering 87 silos in different parts of the U. S. show that the average cost of filling a silo is 87c. per ton. This figure relates only to the cost of labor, teams, engine, gasoline and twine employed.

EXCELLENT TYPES OF WOODEN SILOS.

GREEN MOUNTAIN SILO on the farm of Capt. E. B. Cassatt, Berwyn, Pa.
(By courtesy of The Creamery Package Manufacturing Co., Rutland, Vt.)

HARDER SILOS at Pequest Farms Dairy, Andover, Sussex County, N. J.
(By courtesy of the Harder Manufacturing Company, Cobleskill, N. Y.)

These same investigations by the Dairy Division of the U. S. Department of Agriculture show that the cost per ton of growing silage was $1.58. This added to the 87 cents, which represents the cost of filling, makes the total cost of the silage average $2.45 per ton.

Sweet Corn

In localities situated near to large markets, sweet corn, particularly early sweet corn, is usually extremely profitable. Extra early sweet corn should be regarded as a market garden crop. A strong, warm, sandy loam should be selected, and the time of planting should be regulated according to the grower's experience. Market gardeners who make a careful study of their local conditions are in a position to determine the proper time to plant.

Extra early planting is of course a prime essential and this early planting should be undertaken with full realization of the expense which would be incurred if replanting became necessary. For example, sweet corn is sometimes planted in Central Massachusetts as early as April 1st, and the crop carried through in excellent condition. Yet at the time of planting sufficient extra seed is reserved to replant if the crop is killed back by frost or if the seed rots in the ground.

The rows should be spaced from 2½ to 4 feet apart, according to the variety of corn planted. Some of the early dwarf varieties may be planted in hills 2½ feet apart each way. Taller growing varieties should be planted in rows from 3 to 4 feet apart. It is extremely important that early sweet corn should not be crowded as there must be free access to the sunlight in order to hasten the crop forward. In other words, plant a sufficient distance apart so that the crop cannot shade itself unduly. To facilitate rapid and clean cultivation, early sweet corn is best planted in hills so that the cultivators may be run in both directions.

While level culture is in every way preferable for field corn, it is generally a good practice to hill extra early sweet corn slightly, to prevent water from standing about the plants.

When planting very early, do not place the seed more than one inch below the surface of the ground. When planting later, after the ground is thoroughly warm, sweet corn may be planted from 1½ to 2 inches below the surface of the ground.

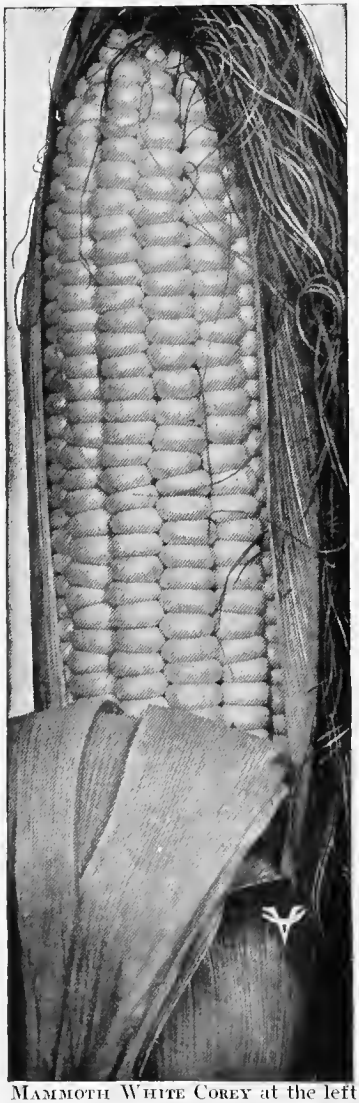
On account of the wet soil conditions that are apt to prevail during the early spring, a considerable portion of the seed is liable to rot in the ground. For this reason a larger number of kernels should be placed in each hill at planting time than is customary for field corn. Six or seven kernels will not prove to be too many. If all of these grow, the plants should be thinned out to four in a hill after the danger of killing by frost is past.

Early sweet corn makes profitable use of large quantities of plant food. Eight cords per acre of stable manure (preferably horse manure) is desirable. With this should be used from 1,200 to 1,600 lbs. per acre of a fertilizer moderately rich in quick acting nitrogen, extremely rich in available phosphoric acid to force early maturity, and fairly rich in potash.

The greater part of the fertilizer for sweet corn should be broadcasted, but a small quantity is generally used in the hill to assist in developing as quickly as possible a strong root system for the young plants.

Many of the most successful New Jersey growers who raise sweet corn for the New York City markets, make it a rule to use in the hill a fertilizer that does not contain over 4% potash.

EXCELLENT VARIETIES OF VERY EARLY SWEET CORN.



Mammoth White Corey at the left is probably the earliest sweet corn grown. Ears are large—fairly sweet. Golden Bantam at the right (illustration full size of ear) is a very early Dwarf Yellow Corn of remarkable sweetness. Excellent for home garden. (Illustration of Golden Bantam by courtesy of Jas. J. H. Gregory & Son, Marblehead, Mass.)

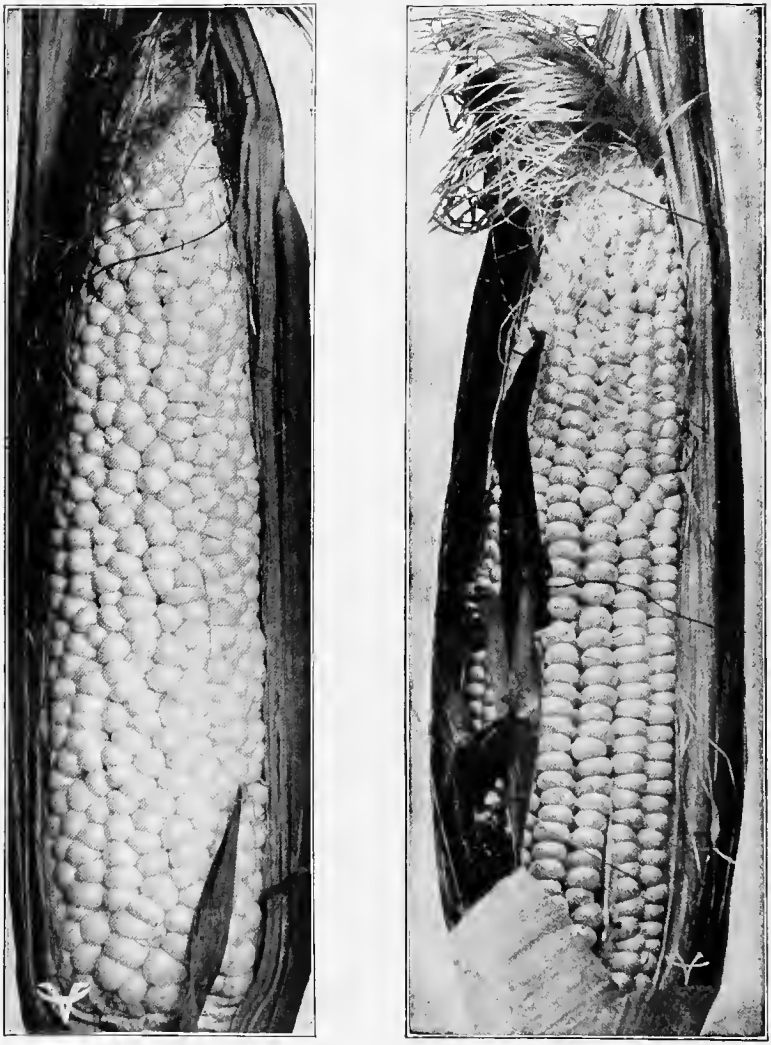
The returns from extra early sweet corn often run as high as $300.00 to $350.00 per acre, and it is therefore apparent that the crop is deserving of every attention in the way of abundant plant food and careful cultivation.

The main or mid-season crop of sweet corn does not give such large returns as the early crop. On dairy farms, however, the value of the stalks for feeding to cattle is generally sufficient to pay for the cost of growing and the returns from the sale of the ears are as a rule clear profit.

The varieties planted for the mid-season and late crops are generally tall growing and the suggestions previously given for planting, fertilizing and cultivating field corn apply equally well in these cases.

Quincy Market Sweet Corn; an excellent second early variety ready for marketing just after Corey, and usually just before Crosby. The ears are larger than either Corey or Crosby, quality is excellent, and it is well adapted to market gardening or to the family garden. (By courtesy of James J. H. Gregory & Son, Marblehead, Mass.)

TYPES OF EXCELLENT VARIETIES OF MID-SEASON TO LATE SWEET CORN.



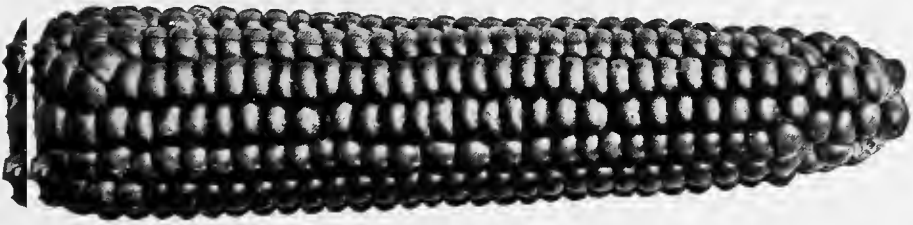
COUNTRY GENTLEMAN at the left, and STOWELL'S EVERGREEN at the right, are both main crop varieties. They are noted for their fine, rich flavor, sweetness and tenderness.

Pop Corn

The limited demand for pop corn makes this crop of secondary importance, yet in some localities the crop is profitably grown on warm sandy loams. The general directions for planting field corn apply to pop corn. The rows should be placed about 3½ feet apart and the kernels may be dropped so that the plants will stand from 8 to 10 inches apart in the row; or if planted in hills arrange rows and hills so that the plants will be three feet apart each way.

Pop corn has a strong tendency to "sucker" when planted thinly, and moderately close planting will help to overcome this difficulty. As it is extremely important that pop corn should be thoroughly matured, in order to "pop" well, and as the crop requires from 100 to 130 days to mature, early planting is desirable and heavy fertilization is necessary.

A fertilizer for pop corn should be particularly rich in phosphoric acid to hasten early maturity. Large applications of stable manure or fertilizers particularly rich in nitrogen should be avoided as too much nitrogen retards early ripening. Fertilizers for pop corn should contain moderate amounts of Potash. Pop corn should be allowed to mature on the stalk and dry out thoroughly in the field if possible.



Black Beauty Pop Corn; extra early, pops white, tender and crisp. Bred in Wisconsin.

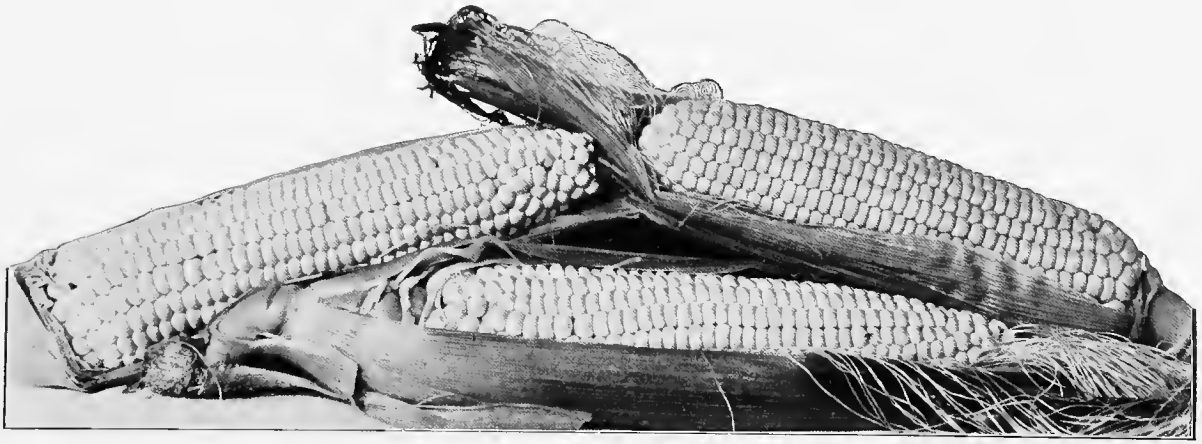
Corn Diseases

Corn is fortunately remarkably free from diseases. There are however, several fungi that attack the corn plant; the principal ones being as follows:

Maize (or corn) Smut. (Ustilago zeæ.)

The bacterial disease of Dent corn. (Bacillus cloacæ.)

ONE OF THE BEST VARIETIES OF SECOND EARLY SWEET CORN.



IMPROVED ORIGINAL CROSBY, a second early variety usually ready for market following Corey; highly prized by market gardeners, and delicious for family use. (By courtesy of Jas. J. H. Gregory & Son, Marblehead, Mass.)

The bacterial or wilt disease of sweet corn. (Pseudomonas stewarti.)

Maize (corn) Rust. (Puccinia sorghi.)

The leaf blight fungus. (Helminthosporium graminium.)

Of all the above, the common corn smut is the only one that generally assumes serious proportions. The common smut is caused by a parasitic fungus. White swellings, generally on the ears are the first symptom of this disease. Later these swellings enlarge and break open, showing a mass of black, moist material. This black mass consists of millions of spores of the fungus. These later become dry and blow about the field, tending to spread the disease to other plants and also to infect the soil.

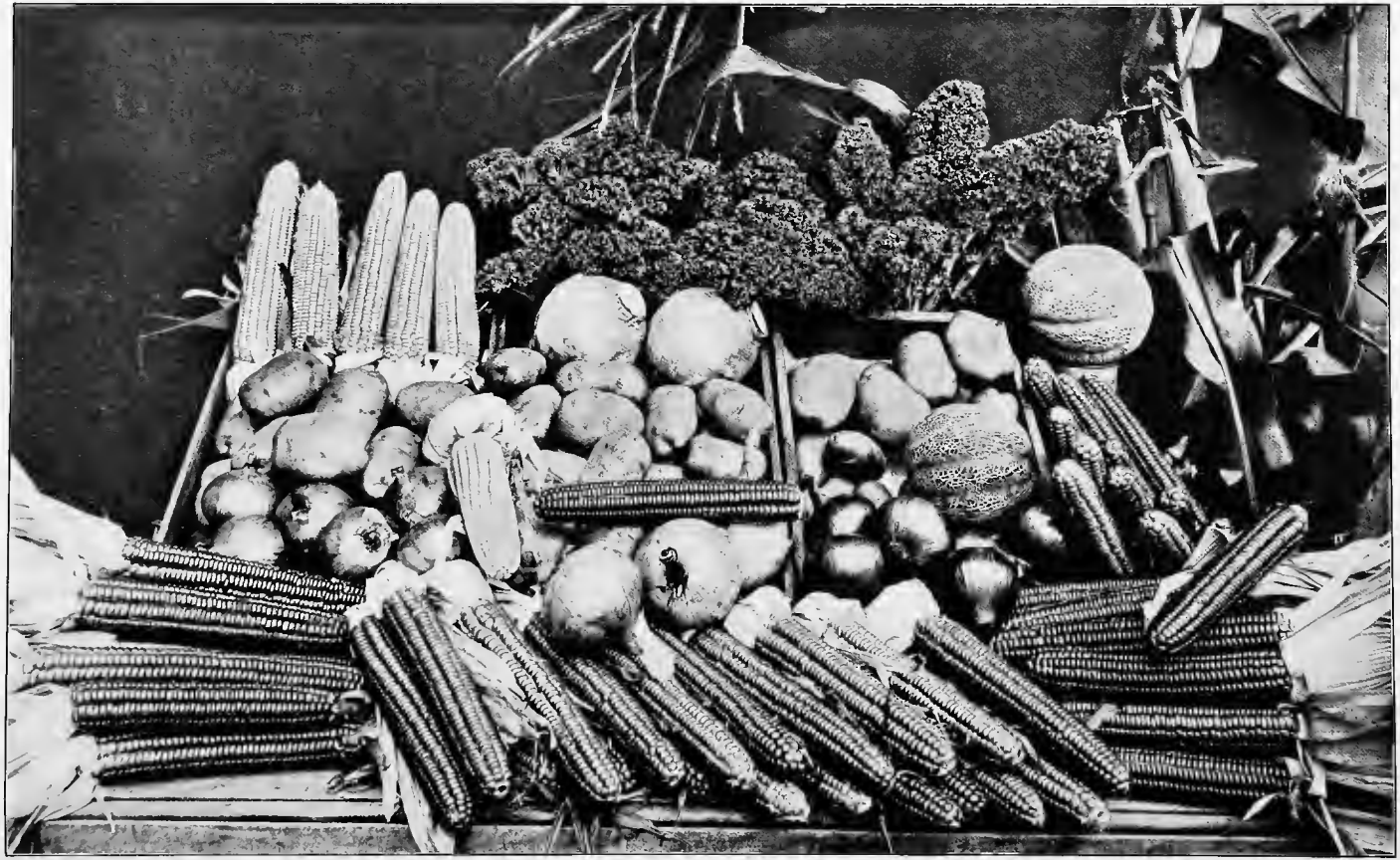
Treatment of seed corn to prevent this disease is usually of very little use. It is obvious that clean seed will avail little if millions of spores of this disease are present in the soil. On small areas or on fields devoted to raising seed corn, it is sometimes desirable to go through the field two or three times during the season and remove all smut affected ears.

These ears may then be burned or plunged into boiling water to kill the spores. This treatment however, is not practicable on large areas. Preventive measures consist in not feeding any smut affected corn or corn stalks or silage to cattle, thus avoiding infecting the manure with the spores; also in a careful system of crop rotation in which new land is taken up for corn at sufficiently frequent intervals to avoid this disease.

A Day's Work in the Corn Field

In planning for the corn crop it is important to be able to estimate the amount of work that can be accomplished by a given number of men and teams. While this amount of work will vary somewhat, depending upon the way the work is planned, and the efficiency of the workers, a large number of observations made by officials of the United States Government have furnished extremely valuable data.

The tables presented were worked out with the utmost care as the result of inquiries sent to 25,000 farmers, in every state and territory of the Union. Various controlling conditions were carefully considered, and the value of the results presented cannot be questioned. Such of these results as have a bearing on corn growing are given here.



CORN raised with our fertilizers is the basis of many a farmer's prosperity, but all other crops thrive on our superior plant foods.

A Day's Work in the Corn Field

TABLE I.—*A normal day's work with a walking plow, giving the daily acreages reported at 6-inch depths for each width, adjustments for these widths, and a scale of allowances for other depths.*

(Net hours in the field, 9.65.)

Team and width.	Plowed per day.	Number Averaged.	Adjusted acreage.	Allowance per inch in depth.	Practicable depths.
Two-horse teams:	*Acres.*			*Acres.*	*Inches.*
8 inches	1.69	18	1.50	0	3 to 12
10 inches	1.62	64	1.60	0	3 to 12
11 inches	1.67	19	1.65	0	3 to 12
12 inches	1.76	143	1.70	.10	3 to 10
14 inches	2.00	151	1.80	.12	3 to 9
16 inches	2.11	22	1.90	.15	3 to 8
Three-horse teams:					
8 inches	1.50	1	1.70	0	3 to 12
10 inches	2.10	5	1.90	0	3 to 12
11 inches	1.50	2	2.00	0	3 to 12
12 inches	2.40	10	2.10	0	3 to 11
14 inches	2.32	38	2.30	.10	3 to 10
16 inches	2.77	65	2.50	.12	3 to 9

TABLE II.—*A normal day's work with a sulky plow, giving the daily acreages reported at 6-inch depths for each width, adjustments for these widths, and a scale of allowances for other depths.*

(Net hours in the field, 9.65.)

Team and width.	Plowed per day.	Number Averaged.	Adjusted acreage.	Allowance per inch for other depths.	Practicable depths.
Two-horse teams:	*Acres.*			*Acres.*	*Inches.*
12 inches	1.84	11	1.65	0.10	3 to 8
14 inches	1.93	18	1.75	.12	3 to 7
16 inches	2.31	4	1.85	.15	3 to 6
Three-horse teams:					
12 inches	1.93	7	2.20	0	3 to 10
14 inches	2.41	59	2.40	.10	3 to 9
16 inches	2.94	171	2.60	.12	3 to 8
Four-horse teams:					
12 inches	3.00	1	2.30	0	3 to 12
14 inches	2.83	6	2.50	0	3 to 12
16 inches	3.19	25	2.80	.10	3 to 10

TABLE III.—*A normal day's work with a gang plow, giving the daily acreages reported at 6-inch depths for each width, adjustments for these widths, and a scale of allowances for other depths.*

(Net hours in the field, 9.65.)

Team and width.	Plowed per day.	Number Averaged.	Adjusted acreage.	Allowance per inch for other depths.	Practicable depths.
Four-horse teams:	*Acres.*			*Acres.*	*Inches.*
24 inches	4.23	71	4.00	0.12	3 to 8
28 inches	4.72	73	4.25	.15	3 to 7
Five-horse teams:					
24 inches	5.00	8	4.50	.10	3 to 9
28 inches	5.14	69	4.80	.12	3 to 8
Six-horse teams:					
24 inches	4.50	4	4.75	0	3 to 10
28 inches	5.05	31	5.25	.10	3 to 10

A Day's Work in the Corn Field

TABLE IV.—*A normal day's work with a spike-tooth harrow, giving the average acreages reported for the widths most frequently used and adjustments for other widths.*

(Net hours in the field, 9.65.)

Number of horses.	Width of Harrow.		On freshly plowed land.				On well-packed land.			
	Range.	Most common width.	Harrowed per day.	Number averaged.	Adjusted acreage.	Allowance for each foot in width.	Harrowed per day.	Number averaged.	Adjusted acreage.	Allowance for each foot in width.
	Feet.	*Feet.*	*Acres.*			*Acres.*	*Acres.*			*Acres.*
2	4-12	8	10.8	224	9.50	1.2	12.9	194	11.5	1.5
3	8-16	10	15.3	149	13.5	1.5	19.0	140	17.5	1.8
4	10-26	16	28.3	112	25.0	1.8	35.1	102	32.0	2.0

TABLE V.—*A normal day's work with a spring-tooth harrow, giving the average acreages reported for the widths most frequently used and adjustments for other widths.*

(Net hours in the field, 9.65.)

Number of horses.	Width of Harrow.		On freshly plowed land.				On well-packed land.			
	Range.	Most common width.	Harrowed per day.	Number averaged.	Adjusted acreage.	Allowance for each foot in width.	Harrowed per day.	Number averaged.	Adjusted acreage.	Allowance for each foot in width.
	Feet.	*Feet.*	*Acres.*			*Acres.*	*Acres.*			*Acres.*
2	4- 8	6	7.4	180	6.5	0.60	8.6	169	7.5	0.70
3	6-10	6	8.2	120	7.4	.70	10.2	113	9.2	.80
4	6-12	8	13.1	22	11.8	.75	14.8	23	13.3	.90

TABLE VI.—*A normal day's work with a disk harrow, giving the average daily acreage reported for the widths most frequently used and adjustments for other widths.*

(Net hours in the field, 9.65.)

Number of horses.	Width of Harrow.		On freshly plowed land.				On well-packed land.			
	Range.	Most common width.	Harrowed per day.	Number averaged.	Adjusted acreage.	Allowance for each foot in width.	Harrowed per day.	Number averaged.	Adjusted acreage.	Allowance for each foot in width.
	Feet.	*Feet.*	*Acres.*			*Acres.*	*Acres.*			*Acres.*
2	4- 8	6	7.2	159	6.5	0.50	7.5	147	6.7	0.60
3	5-10	6	7.5	163	6.8	.60	9.1	165	8.0	.70
4	6-10	8	12.8	414	11.5	.80	15.4	432	14.0	.90
5	7-10	8	11.3	7	12.0	.85	13.4	7	14.5	.95
6	7-10	8	15.4	16	13.5	1.00	18.0	19	16.0	1.10

A Day's Work in the Corn Field

TABLE VII.—*A normal day's work with a land roller, giving the average daily acreage reported for the widths most frequently used and adjustments for other widths.*

(Net hours in the field, 9.65.)

Number of horses.	Width of roller.		Rolled per day.	Number averaged.	Adjusted acreage.	Allowance for each foot in width.
	Range.	Most common width.				
	Feet.	*Feet.*	*Acres.*			*Acres.*
2	5-12	8	13.2	442	12.0	1.10
3	6-14	8	13.5	24	12.5	1.15
4	8-18	8	15.2	37	14.0	1.20

TABLE VIII.—*A normal day's work in planting corn, giving the average daily acreage reported for the widths of row most frequently used and adjustments for other widths of row.*

(Net hours in the field, 9.67.)

Power.	Planter.	Most common width of row.	Planted per day.	Number averaged.	Adjusted acreage.	Allowance for each 6 inches in width.
		Inches.	*Acres.*			*Acres.*
One horse	One row	42	6.9	226	6.25	0.80
Two horses	Do	42	10.9	57	8.75	.90
Do	Two row	42	13.6	430	12.25	1.25
Hand	Hand	42	4.4	162	4.00	.60

TABLE IX.—*A normal day's work in marking rows for planting, giving the daily acreages reported for designated widths and adjustments far each width.*

(Net hours in the field, 9.53.)

Number of horses.	Width of marker.	Width of rows.	Marked per day for each 3 feet in width of marker.	Number averaged.	Adjusted acreage.	Allowance for each foot in width.
	Feet.	*Feet.*	*Acres.*			*Acres.*
1	3-12	3	5.68	89	5.1	0.75
2	3-12	3	6.81	78	6.2	.65

TABLE X.—*A normal day's work in hauling and spreading manure with a spreader, giving the average work factors reported and adjusted factors averaged according to the size of load.*

(Net hours at work, 9.57.)

Item.	Size of load.			
	Below 60 cubic feet.		60 cubic feet and over.	
	Reported averages.	Adjusted factors.	Reported averages.	Adjusted factors.
Horses in team	2.56	2 or 3	2.88	3
Distance hauled, rods	75.4	.....	79.9	.....
Loads on sod	13.9	12.0	13.1	11.0
Loads on stubble	12.7	11.5	11.7	10.5
Loads per acre	7.6	7.5	6.6	6.5
Minutes to load	23.6	30.0	25.9	35.0
Minutes to unload	10.0	15.0	9.8	14.0
Number averaged	320	.....	485	.....

A Day's Work in the Corn Field

TABLE XI.—*A normal day's work in spreading manure from a wagon with a fork by one man, giving the time to unload averaged according to the distance spread.*

Distance spread.		Size of load.	Time to spread.	Number reporting.
Range.	Average.			
	Feet.	*Bushels.*	*Minutes.*	
8 feet or less	6.84	42.6	28.11	88
9 to 15 feet	11.77	42.10	27.98	323
16 feet and over	20.56	43.94	28.54	465

TABLE XII.—*A normal day's work in loading, hauling, and dumping manure in piles by one man with a team.*

Number of loads per day.		Size of load.	Distance hauled.	Number averaged.	Percentage reporting.
Range.	Average.				
		Bushels.	*Rods.*		
Under 8	5.74	44	99	120	16
8 to 10	9.22	43	77	344	45
11 to 15	12.87	42	69	207	27
Over 15	20.92	42	67	94	12

TABLE XIII.—*A normal day's work in spreading manure from piles with a fork by one man.*

(Net hours in the field, 9.57.)

Size of piles.		Spread per day.		Number averaged.	Percentage reporting.
Range.	Average.	Piles.	Bushels.		
	Bushels.				
Under 5 bushels	2.99	199	595	166	37
5 to 9 bushels	5.70	147	842	200	44
10 to 14 bushels	10.18	102	1,047	88	19

TABLE XIV.—*A normal day's work in spreading lime with a lime spreader and fertilizer with a fertilizer drill, giving the average acreages reported for the widths most frequently used, adjusted acreages for these widths, and allowances deduced for other widths.*

(Net hours in the field, 9.81.)

Implement.	Range of width.	Most common width.	Number of horses in team.	Spread per day.	Number averaged.	Adjusted acreage.	Allowance for other widths (acreage per foot).
	Feet.	*Feet.*		*Acres.*			
Lime spreader	4-12	8	2	10.65	20	9.50	0.75
Fertilizer drill	4-10	6	2	8.44	122	7.50	.70
	6-12	8	3	10.40	15	9.35	.70

A Day's Work in the Corn Field

TABLE XV.—*A normal day's work in cultivating corn, potatoes, beans, cabbage, and cotton, giving the average daily acreages reported according to the number of horses used and adjustments for each cultivating unit.*

(Net hours in the field, 9.79.)

Crop.	Number of horses.	Cultivated per day.	Number averaged.	Adjusted acreage. per day.
		Acres.		
Corn	1	4.8	791	4.30
	2	7.72	448	7.00
Potatoes	1	4.25	403	3.80
	2	6.53	210	5.90
Beans	1	3.87	228	3.50
	2	6.30	163	5.70
Cabbage	1	4.08	220	3.70
	2	6.06	136	5.45
Cotton	1	4.72	112	4.25
	2	7.35	76	6.80

TABLE XVI.—*A normal day's work in harvesting corn with a binder, giving the average acreages reported according to the number of horses for designated yields.*

Number of horses.	Yield per acre.	Harvested per day.	Number averaged.
		Acres.	
2	1 to 40 bushels	7.47	52
	41 to 60 bushels	6.70	59
	61 bushels and over	5.57	49
3	1 to 40 bushels	7.63	225
	41 to 60 bushels	7.16	179
	61 bushels and over	6.30	68
4	1 to 40 bushels	8.16	54
	41 to 60 bushels	8.27	60
	61 bushels and over	7.21	14

TABLE XVII.—*A normal day's work in harvesting corn with a platform cutter, giving the average daily acreages reported for crews commonly used and adjusted factors for each crew.*

Number of men.	Number of horses.	Harvested per day.	Number averaged.	Adjusted acreage.
		Acres.		
2	1	5.08	118	4.60
	2	5.80	35	5.20
3	1	5.70	10	5.90
	2	4.50	4	6.80
4	2	8.00	24	8.20
	4	9.00	2	10.00

TABLE XVIII.—*A normal day's handwork in harvesting corn, giving the average daily acreages for one man according to the yield per acre.*

Operation.	Yield per acre.	Harvested per day.	Number averaged.
		Acres.	
Cutting, shocking, and tying corn by hand	1 to 40 bushels	1.65	141
	41 to 60 bushels	1.50	143
	61 bushels and over	1.40	72
Tying and shocking corn after binder	1 to 40 bushels	4.65	300
	41 to 60 bushels	3.71	268
	61 bushels and over	3.15	111

At the Corn Show, where the competition is based on quality, and where well-fertilized Corn proves its merits. New England Corn Exposition, Boston, Mass., Nov., 1912.

Feeding Value of Corn

TABLE I.—*Showing the average digestible Nutrients in Corn, Cobs, and Various Feeding Stuffs made from Corn.*

Name of Feed.	Total Dry Matter in 100 Lbs.	Digestible Nutrients in 100 Lbs.		
		Crude Protein	Carbo-hydrates	Fat
Grain, Seeds and their Parts.	Lbs.	Lbs.	Lbs.	Lbs.
Dent corn	89.4	7.8	66.8	4.3
Flint corn	88.7	8.0	66.2	4.3
Sweet corn	91.2	8.8	63.7	7.0
Corn meal	85.0	6.1	64.3	3.5
Corn cob	89.3	0.5	44.8	.....
Corn-and-cob meal	84.9	4.4	60.0	2.9
Gluten meal	90.5	29.7	42.5	6.1
Gluten feed	90.8	21.3	52.8	2.9
Feed chop	90.4	6.8	60.5	7.4
Germ oil meal	91.4	15.8	38.8	10.8
Corn bran	90.6	6.0	52.5	4.8

TABLE II.—*Showing the Average Digestible Nutrients in Dried Roughage. (Note that fodder corn contains more digestible protein than timothy hay cut nearly ripe.)*

Name of Feed.	Total Dry Matter in 100 Lbs.	Digestible Nutrients in 100 Lbs.		
		Crude Protein	Carbo-hydrates	Fat
	Lbs.	Lbs.	Lbs.	Lbs.
Fodder corn (ears if any remaining)	57.8	2.5	34.6	1.2
Corn stover (ears removed)	59.5	1.4	31.2	0.7
English hay	86.0	4.5	44.0	1.2
Hay for mixed grasses	84.7	4.2	42.0	1.3
Timothy (all analyses)	86.8	2.8	42.4	1.3
Timothy (cut in full bloom)	85.0	3.4	43.3	1.4
Timothy (cut soon after bloom)	85.8	2.5	39.2	1.5
Timothy (cut nearly ripe)	85.9	2.1	40.1	1.1
Orchard grass	90.1	4.9	42.4	1.4
Red top	91.1	4.8	46.9	1.0
Meadow fescue	80.0	4.2	36.9	1.5
Kentucky blue grass	86.0	4.4	40.2	0.7
Red clover	84.7	7.1	37.8	1.8
Red clover in bloom	79.2	7.7	34.0	2.8
Mammoth red clover	78.8	6.2	34.7	2.1
Alsike clover	90.3	8.4	39.7	1.1
White clover	90.3	11.5	42.2	1.5
Crimson clover	90.4	10.5	34.9	1.2
Soy bean	88.2	10.6	40.9	1.2
Alfalfa	91.9	10.5	40.5	0.9
Alfalfa leaves	95.1	16.8	35.9	1.3

TABLE III.—*Showing the Average Digestible Nutrients in Silage.*

Name of Feed.	Total Dry Matter in 100 Lbs.	Digestible Nutrients in 100 Lbs.		
		Crude Protein	Carbo-hydrates	Fat
	Lbs.	Lbs.	Lbs.	Lbs.
Corn	26.4	1.4	14.2	0.7
Sorghum	23.9	0.1	13.5	0.2
Red clover	28.0	1.5	9.2	0.5
Soy bean	25.8	2.7	9.6	1.3
Cowpeas	20.7	1.5	8.6	0.9

(Tables Adapted from Henry's "Feeds and Feeding," and from Burkett's "First Principles of Feeding Farm Animals.")

United States Government Statistics of the Corn Crop

TABLE I.—*Corn: Farm price per bushel on first of each month, by geographical divisions, 1913 and 1914.*

Month	United States		North Atlantic States		South Atlantic States		N. Central States East of Miss. R.		N. Central States West of Miss. R.		South Central States		Far Western States	
	1914	1913	1914	1913	1914	1913	1914	1913	1914	1913	1914	1913	1914	1913
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
January....	69.6	48.9	78.2	61.9	85.1	74.5	62.4	44.0	60.9	39.0	81.8	61.8	81.6	58.4
February...	68.3	50.6	74.6	61.5	86.1	75.9	60.6	46.1	59.0	41.5	81.1	62.2	81 8	61.1
March.....	69.1	52.2	73.8	63.4	88.6	77.2	61.2	47.1	58.8	42.5	83.1	65.7	76.1	65.6
April.....	70.7	53.7	75.2	62.5	89.6	79.4	62.8	48.3	61.3	44.2	83.6	67.0	77.2	65.5
May.....	72.1	56.8	76.7	65.4	91.1	81.7	64.4	51.6	62.3	48.3	85.3	68.8	80.5	62.4
June.....	75.0	60.6	78.3	67.7	93.2	86.0	67.5	55.3	65.1	52.4	88.6	72.1	81.4	67.9
July.....	75.5	63.2	80.5	69.3	94.0	86.0	68.8	59.0	65.2	55.1	88.7	74.0	81.8	68.0
August.....	76.8	65.4	80.8	72.8	94.0	87.9	71.9	61.2	65.6	58.1	89.7	74.8	79.3	67.2
September..	81.5	75.4	90.8	81.6	98.6	91.3	78.1	71.6	72.3	70.7	88.7	82.4	80.9	79.0
October....	78.2	75.3	89.3	83.6	96.5	90.6	74.6	70.7	68.9	70.4	85.2	83.4	80.4	81.5
November..	70.6	70.7	80.0	78.1	89.0	85.8	67.1	64.1	61.6	66.4	76.9	80.8	80.3	78.9
December..	64.4	69.1	76.6	74.9	82.9	84.2	61.2	62.3	55.9	62.3	71.5	79.1	70.4	77.2
Average..	71.7	60.1	79.1	69.6	90.6	83.5	65.3	53.7	62.2	51.5	81.4	73.1	79.1	68.3

TABLE II.—*Corn: Wholesale price per bushel, 1900-1914.*

Date.	New York.		Baltimore.		Cincinnati.		Chicago.		Detroit.		St. Louis.		San Francisco.	
	No. 2 yellow.		Mixed.		No. 2 mixed.[1]		Contract.		No. 3.		No. 2.		White (per 100 lbs.)	
	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Dolls.	Dolls.
1900.....	41	52¼	36⅝	48⅞	32¾	47	30½	49½	31½	37	30½	43	1.00	1.30
1901.....	45⅞	76	41½	68	38	71½	36	67½	38	67	35	70	1.10	1 75
1902.....	59	76½	43	77	44	69	43¾	88	47	67	40½	69¼	1.30	1 65
1903.....	49⅞	63	46¼	61	40	54½	41	53	38	53¾	39	55	1.17½	1.57½
1904.....	53¼	72	49¼	58¾	45½	58½	42¾	58⅛	42	60	42½	57	1.25	1.55
1905.....	50¾	65	42	65	44½	59½	42	64½	44¾	59	41½	58½	1.25	1.55
1906.....	47	61½	45⅝	58	42	55½	39	54¾	43	55	39½	54¼	.....	.....
1907.....	49½	78	47	74¼	43	71	39¾	66½	43	69½	39	66	1.25	1.60
1908.....	61	76	59⅝	83½	54½	83½	56½	82	53½	83	54¼	81½	1.60	1.90
1909.....	66¼	85½	63½	82	57	78	58¼	77	59	79	58	77	1.72½	1.95
1910.....	(2)	(2)	50	70½	46	69½	45½	68	46½	68¼	44	68	1.40	1.85
1911.....	(2)	(2)	48⅞	79	45½	77½	45½	76	45¾	76	43½	77	1.31¼	1.80
1912.....	54½	70	52	87	47	87	47½	83	48	83½	45	85	1.50	1.97½
1913.....	54½	88¼	52⅛	68	48	81	46½	78¼	48	78½	45	82	1.45	1.87
1914														
January....	60	70	66½	67½	65½	69	60	66	63	64½	63½	68	1.62	1.78
February...	70	73½	66¼	68	64	68	61	63½	62	63½	64	66½	1.61	1.75
March.....	74	78¼	67½	69½	64½	72	63	70	62½	67½	63	70	1.61	1.63
April.....	74¾	79	71	74	69½	73	64	69½	66¼	69	64	69½	1.61	1.63
May.....	69½	81	71	76	70	75	67	72½	67½	73½	69½	73	1.61	1.75
June.....	75¾	82½	77	77	71	75	67¾	73½	71	74	68½	73½	1.72	1.77½
July.....	75½	82½	75½	75½	70	83	67½	76	70	79	67	77½	1.67½	1.87½
August.....	81	93¾	82	89	79½	88¼	74	86	79	88	77½	87	1.72	1.92½
September..	81½	91	82	89	76	85	72½	83¼	75½	82	77½	82½	1 90	1.93
October....	80	84	77	79	74	77½	71½	76	72½	78	70	76½	1.70	1.90
November..	72	86¼	67½	82½	63½	76½	62¾	78¼	64	77	63	80	1.80	1.80
December..	71¾	77¾	69	72⅝	63½	70½	62¼	68¼	63½	70	62⅜	67⅝	1.80	1.80
Year.....	60	93¾	66¼	89	63½	88½	60	86	62	88	62⅜	87	1.61	1.93

[1]No. 2 grade to 1912. [2]Nominal.

United States Government Statistics of the Corn Crop

TABLE III.—*Acreage, production, and total farm value, by States, 1913 and 1914.*

State.	Thousands of acres.		Production (thousands of bushels).		Total value, basis Dec. 1 price (thousands of dollars).	
	1914	1913	1914	1913	1914	1913
Maine	16	16	736	608	648	529
New Hampshire	21	22	966	814	792	659
Vermont	45	45	2,115	1,665	1,713	1,349
Massachusetts	48	48	2,256	1,944	1,918	1,652
Rhode Island	11	11	462	402	453	398
Connecticut	61	61	2,806	2,348	2,497	1,996
New York	550	527	22,550	15,020	18,716	12,166
New Jersey	272	275	10,472	10,862	7,959	8,146
Pennsylvania	1,463	1,463	62,178	57,057	45,390	41,081
Delaware	197	197	7,092	6,206	4,397	3,662
Maryland	663	670	24,531	22,110	16,681	14,372
Virginia	1,921	1,980	39,380	51,480	31,898	39,125
West Virginia	732	732	22,692	22,692	18,834	18,154
North Carolina	2,835	2,835	57,550	55,282	49,493	48,648
South Carolina	1,975	1,975	36,538	38,512	33,615	37,357
Georgia	4,000	4,066	56,000	63,023	47,600	57,351
Florida	700	675	11,200	10,125	8,960	8,302
Ohio	3,650	3,900	142,715	146,250	87,056	92,138
Indiana	4,949	4,900	163,317	176,400	94,724	105,840
Illinois	10,346	10,450	300,034	282,150	183,021	177,754
Michigan	1,750	1,675	63,000	56,112	42,210	37,595
Wisconsin	1,725	1,650	69,862	66,825	45,410	40,095
Minnesota	2,600	2,400	91,000	96,000	47,320	50,880
Iowa	10,248	9,950	389,424	338,300	214,183	202,980
Missouri	7,200	7,375	158,400	129,062	107,712	95,506
North Dakota	500	375	14,000	10,800	8,120	5,616
South Dakota	3,000	2,640	78,000	67,320	39,000	37,699
Nebraska	7,100	7,610	173,950	114,150	92,194	74,198
Kansas	5,850	7,320	108,225	23,424	68,182	18,271
Kentucky	3,650	3,650	91,250	74,825	58,400	56,867
Tennessee	3,350	3,350	80,400	68,675	54,672	52,880
Alabama	3,264	3,200	55,488	55,360	44,390	49,270
Mississippi	3,150	3,150	58,275	63,000	42,541	48,510
Louisiana	2,000	1,900	38,600	41,800	28,950	32,186
Texas	6,400	6,800	124,800	163,200	92,352	133,824
Oklahoma	4,000	4,750	50,000	52,250	32,000	37,620
Arkansas	2,400	2,475	42,000	47,025	33,600	36,680
Montana	50	28	1,400	882	1,064	679
Wyoming	21	17	525	493	368	394
Colorado	462	420	10,626	6,300	6,376	4,599
New Mexico	92	85	2,576	1,572	2,061	1,179
Arizona	18	17	576	476	691	524
Utah	12	10	420	340	315	238
Nevada	1	1	36	34	40	40
Idaho	19	14	589	448	424	305
Washington	36	34	972	952	710	762
Oregon	22	21	660	598	541	419
California	60	55	2,160	1,815	1,879	1,597
United States	103,435	105,820	2,672,804	2,446,988	1,722,070	1,692,092

United States Government Statistics of the Corn Crop

TABLE IV.—*Yield per acre, price per bushel, Dec. 1, and value per acre, by States.*

State	Yield per acre (bushels).											Farm price per bushel (cents).						Value per acre (dollars).[1]	
	10-year average, 1905-1914.	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	10-year average, 1905-1914.	1910	1911	1912	1913	1914	5-year average, 1910-1914.	1914
Me.	40.1	34.3	37.0	37.0	40.5	38.0	46.0	44.0	40.0	38.0	46.0	78	71	90	75	87	88	35.16	40.48
N. H.	40.4	37.0	37.5	35.0	39.0	35.1	46.0	45.0	46.0	37.0	46.0	75	69	82	75	81	82	34.17	37.72
Vt.	39.2	34.7	35.5	36.0	40.3	37.0	43.0	41.0	40.0	37.0	47.0	73	66	80	72	81	81	31.60	38.07
Mass.	41.4	37.5	39.7	36.0	40.4	38.0	45.5	44.0	45.0	40.5	47.0	77	70	83	77	85	85	35.48	39.95
R. I.	37.8	32.5	33.1	31.2	42 8	33.2	40.0	45.0	41.5	36.5	42.0	86	83	95	88	99	98	37.95	41.16
Conn.	43 4	42.7	40.0	33.0	41.3	41.0	53.2	48.5	50.0	38.5	46.0	76	68	83	77	85	89	37.72	40.94
N. Y.	35.3	31.5	34.9	27.0	38.8	36.0	38.3	38.5	38.6	28.5	41.0	72	63	77	70	81	83	27.58	34.03
N. J.	36.3	35.8	36.3	31.5	38.0	32.7	36 0	36.8	38.0	39.5	38.5	66	60	71	68	75	76	26.49	29.26
Pa.	39.3	38.9	40.2	32.5	39 5	32.0	41.0	44.5	42.5	39.0	42.5	65	59	68	63	72	73	28.07	31.02
Del.	31.8	30.4	30.0	27.5	32.0	31.0	31.8	34.0	34.0	31.5	36.0	54	52	61	51	59	62	19.10	22.32
Md.	35.1	36.9	35.0	34.2	36 6	31.4	33.5	36.5	36.5	33.0	37.0	58	58	63	55	65	68	21.82	25.16
Va.	24.2	23.4	24.3	25.0	26.0	23.2	25.5	24.0	24.0	26.0	20.5	68	65	73	71	76	81	17.50	16.60
W. Va.	29 8	29.8	30.3	28.0	31.2	31.4	26.0	25.7	33.8	31.0	31.0	70	68	77	65	80	83	21.99	25.73
N. C.	17.6	13.9	15.3	16.5	18.0	16.8	18.6	18.4	18.2	19.5	20.3	78	76	82	83	88	86	15.79	17.46
S. C.	16.2	10.9	12.2	15.1	14.1	16.7	18.5	18.2	17.9	19.5	18.5	85	82	91	85	97	92	16.58	17.02
Ga.	13.6	11 0	12.0	13.0	12.5	13.9	14.5	16.0	13.8	15.5	14.0	80	78	83	85	91	85	12.46	11.90
Fla.	12.7	10.1	11.0	11.3	10.5	12.6	13.0	14.6	13.0	15.0	16.0	78	85	80	79	82	80	11.62	12.80
Ohio.	38.8	37.8	42.6	34.6	38.5	39.5	36.5	38.6	42.8	37.5	39.1	53	46	58	45	63	61	21.18	23.85
Ind.	37.1	40.7	39.6	36.0	30.3	40.0	39.3	36.0	40.3	36.0	33.0	48	40	54	42	60	58	18.57	19.14
Ill.	34.8	39.8	36.1	36.0	31.6	35.9	39.1	33.0	40.0	27.0	29.0	48	38	55	41	63	61	16.82	17.69
Mich.	33.7	34.0	37.0	30.1	31.8	35 4	32.4	33.0	34.0	33.5	36.0	58	53	65	57	67	67	20.91	24.12
Wis.	36.3	37.6	41.2	32.0	33.7	33.0	32.5	36.3	35.7	40.5	40.5	55	52	60	51	60	65	21.50	26.32
Minn.	33.3	32.5	33.6	27.0	29.0	34.8	32.7	33.7	34.5	40.0	35.0	46	45	53	37	53	52	16.95	18.20
Iowa.	34.9	34.8	39.5	29.5	31.7	31.5	36.3	31.0	43.0	34.0	38.0	45	36	53	35	60	55	17.17	20.90
Mo.	28.1	33.8	32.3	31.0	27.0	26.4	33.0	26.0	32.0	17.5	22.0	53	44	60	46	74	68	14.55	14.96
N Dak.	25.3	27.5	27.8	20.0	23.8	31.0	14.0	25.0	26.7	28.8	28.0	52	58	60	43	52	58	13.16	16.24
S. Dak.	28.1	31.8	33.5	25.5	29 7	31.7	25.0	22.0	30.6	25.5	26.0	44	40	53	37	56	50	12.05	13.00
Nebr.	25.3	32.8	34.1	24.0	27.0	24.8	25.8	21.0	24.0	15.0	24.5	45	36	55	37	65	53	10.49	12.98
Kans.	19.9	27.7	28.9	22.1	22.0	19.9	19.0	14 5	23.0	3 .2	18.5	51	45	63	40	78	63	8.21	11.66
Ky.	27.6	29.7	33.0	28.2	25.2	29.0	29.0	26.0	30.4	20.5	25.0	58	53	63	55	76	64	16.01	16.00
Tenn.	24.9	24.6	28.1	26.0	24.8	22.0	25.9	26.8	26.5	20.5	24.0	61	56	61	61	77	68	15.82	16.32
Ala.	16.2	14.8	16.0	15.5	14.7	13.5	18.0	18.0	17.2	17.3	17.0	77	71	78	79	89	80	13.88	13.60
Miss.	17.8	14.3	18.5	17.0	17.3	14.5	20.5	19.0	18.3	20.0	18.5	72	63	72	71	77	73	13.70	13.50
La.	19.3	13.7	17.2	17.5	19.8	23.0	23.6	18.5	18.0	22.0	19.3	68	55	70	68	77	75	13.92	14.48
Tex.	20.0	21.3	22.5	21.0	25.7	15.0	20.6	9.5	21.0	24.0	19.5	66	63	80	64	82	74	13.63	14.43
Okla.	19.1	26.4	33.3	24.4	24.8	17.0	16.0	6.5	18.7	11.0	12.5	51	51	70	41	72	64	7.26	8.00
Ark.	19.8	17.3	23.6	17.2	20.2	18.0	24.0	20.8	20.4	19.0	17.5	66	58	72	67	78	80	14.29	14.00
Mont.	25.8	19.4	23.4	22.5	23.4	35 0	23.0	26.5	25.5	31.5	28.0	78	95	80	70	77	76	21.29	21.28
Wyo.	23.7	26.9	27.0	25.0	28.0	28.0	10.0	15.0	23.0	29.0	25.0	71	66	76	64	80	70	14.68	17.50
Colo.	21.2	23.8	27.9	23.5	20.2	24.2	19.9	14.0	20.8	15.0	23.0	62	60	78	50	73	60	11.60	13.80
N. Mex.	25.9	25.3	29.4	29.0	27.0	31.3	23.0	24.7	22.4	18.5	28.0	79	90	84	75	75	80	18.91	22.40
Ariz.	31.8	27.0	29.5	37.5	33.2	32.1	32.5	33.0	33.0	28.0	32.0	101	110	97	100	110	120	33.99	38.40
Utah.	31.9	36.2	32.0	25 5	29.4	31.4	30.3	35.0	30.0	34.0	35.0	76	84	81	75	70	75	25.27	26.25
Nev.	31.1	....	....	....	....	....	30.0	30.5	30.0	34.0	36.0	100	100	90	98	118	110	33.31	39.60
Idaho.	30.3	27.2	28.3	30.0	29.0	30.6	32.0	30.0	32.8	32.0	31.0	70	71	85	70	68	72	23.05	22.32
Wash.	26.8	24.2	25.2	27.0	25.5	27.8	28 0	28.5	27.3	28.0	27.0	73	75	79	77	80	73	21.33	19 71
Oreg.	28.1	23.0	27.6	27.5	27.8	30.7	25.5	28.5	31.5	28.5	30.0	74	80	80	75	70	82	22.74	24.60
Cal.	34.7	32.0	34.9	34.0	32.0	34.8	37.5	36.0	37.0	33.0	36.0	84	80	90	85	88	87	30.84	31.32
U. S.	26.6	28.8	30.3	25.9	26.2	25.5	27.7	23.9	29.2	23.1	25.8	54.5	48.0	61.8	48.7	69.1	64.4	14 99	16 65

[1]Based upon farm price Dec. 1.

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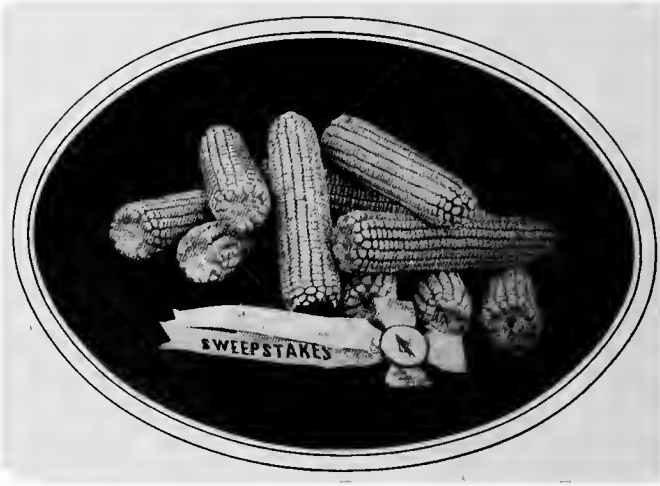
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